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WORKING PAPERS

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1. Imports Under a Foreign Exchange Constraint

Cristian Moran

To estimate how adjustment packages will affect the flow of imports, policymakers need to look beyond the traditional explanatory variables of GDP and real import prices. They must focus in addition on the availability of foreign exchange.

The traditional model of import behavior — which looks only at GDP and real import prices as explanatory variables — failed to predict or explain the developing countries' import slumps in the early 1980s. It works well for industrial countries, unconstrained by foreign exchange. But it does not work well for the typical developing country, short of foreign exchange.

Hence, the search for a better model — a model more useful for developing country policy analysis. Hemphill introduced the availability of foreign exchange, measured by international reserves and foreign capital inflows, as a lone set of explanatory variables. This paper goes a step further and adds the traditional variables, prices and GDP, to international reserves and foreign capital inflows. The four variables together do a better job of predicting import responses — better than each of the two individually.

So, when putting an adjustment package in place, policymakers need to estimate how the availability of foreign exchange will affect the flow of imports. The focus is important because the policies that affect the availability of foreign exchange range more broadly than do policies affecting aggregate demand (contractionary fiscal and monetary policies and exchange rate policies). In addition to actions influencing aggregate demand and prices, the broader policies include those:

- To increase the export supply response.
- To keep international markets open to developing countries (that is, to reverse protection in industrial countries).
- To increase capital inflows, both official and private.

In sum: policy makers must look at the policies that affect GDP **and** prices **and** the availability of foreign exchange when trying to estimate import behavior in developing countries.

This paper is a product of the Trade Policy Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Carmen Hambidge, room N8-069, extension 61539.

2. Issues in Adjustment Lending

Vinod Thomas

Three major issues have emerged from adjustment lending. One is translating adjustment policies into improved economic performance. The second is reconciling policy reforms with changing external conditions. The third is coordinating the adjustment process itself — coordinating the efforts of all the interested parties, inside and outside the country. In relation to each of these issues, expanding the menu of policy options could make adjustment packages more credible and effective.

Reaping the full benefit of adjustment packages depends on a government's commitment to reform as well as a variety of complementary factors, many of which have not been duly considered because of the lack of time, resources, and skills.

Most policy packages have focused on adjustment in the following areas: (1) fiscal and investment policy, (2) exchange rate and trade reform, (3) industrial regulation, (4) agricultural pricing, (5) financial liberalization, and (6) institutional development. No small task. Meanwhile, concerns have been voiced that too much is being attempted — or, where sociopolitical issues are ignored, too little.

It is becoming increasingly clear that if these packages are to be more effective and credible, the menu of policy options might be expanded in three areas. One is translating adjustment policies into improved economic performance — the objective of domestic strategy. The second is reconciling policy reforms with changing external conditions to get the most from the external strategy. The third is improving the process of adjustment itself. So, an already onerous set of tasks has to become even broader — or, better, more focused.

Linking policies to performance. Although the links among policy change, funding, and economic returns might seem clear, identifying them in practice is complex. Efforts to clarify the expected effects of policy on performance should continue. There nevertheless are practical difficulties, some of them unpredictable. A country's policies may improve, but the financing to carry them out may be inadequate. Also influencing the effectiveness of reforms are their credibility and sustainability — as well as an array of complementary policies and nonprice considerations.

Getting the most from the external strategy. Much of the Bank's intellectual and financial effort has supported an outward orientation and market liberalization. But confusion remains over what these changes really mean, about what is really being sought, and about how much is being reformed. Needed now is a clearer understanding of the respective roles of domestic policy and external factors in increasing trade and accelerating growth.

Improving the adjustment process. Preparedness for the reforms has been important for their implementation and sustainability. Timely financing for the adjustment package has also been a key to acceptability. Building a domestic consensus, essential to sustaining stabilization and adjustment efforts, requires commitment and the ability to experiment. Providing adequate finance requires coordinated rather than fragmented efforts by donors, commercial lenders, and the respective governments.

In sum: more attention needs to be placed on the commitment to price reforms and on nonprice areas. Support might also increase for the outward orientation of countries — if discussions are extended to consider external factors and if nondistortionary ways of promoting domestic production are explored. In addition, governments must do more to build a consensus for the reforms — and the external financing community must increase its flexibility in supporting those same reforms.

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3. CGE Models for the Analysis of Trade Policy in Developing Countries

Jaime de Melo

Simulation models with strong micro-

economic underpinnings are being used increasingly in quantifying the implications of alternative trade policy scenarios in developing countries. Presented here are seven models whose modifications enable useful applications to trade policy and external balances, and to growth.

The use of computable general equilibrium (CGE) simulation models for policy analysis has become widespread. In the industrial countries they have generally had a microeconomic focus because economywide policy analysis can rely instead on econometric techniques. But such techniques are not well suited to economywide analysis in developing countries, for three reasons: (1) the lack of time series data, (2) the need to remove inconsistencies from data that are available, and (3) the short time that big changes in policy leave for testing hypothesis. So, simulation models relying on "borrowed" parameter estimates have been used for a wider range of applications in developing countries.

This survey starts with a presentation of the core structure of simulation models for trade policy analysis. It shows that a few share parameters and elasticities, leading to a four-way sectoral classification: exportables, importables, nontradables, and import-dependent sectors. The rest of the survey deals with a range of applications derived from this core model.

Applications to trade policy

Three of the models are modifications of static one-period models:

- *Model 1.* Measuring the costs of protection in a regime of quantitative restrictions characterized by rent-seeking.
- *Model 2.* Measuring the costs of protection when there are economies of scale in some sectors and a restrictive trade policy impedes entry by new firms and allows incumbents to price above average cost.
- *Model 3.* Designing optimal trade policies when budgetary revenue is constrained and fiscal authorities cannot resort to direct taxation because of a weak fiscal system.

Applications to internal and external balances

Three others are modifications of dynamic models that treat intertemporal linkages recursively:

- *Model 4.* Decomposing the causes of a balance-of-payments crisis and comparing the results with purchasing power parity calculations.
- *Model 5.* Determining what an exchange rate in temporary disequilibrium means for the current account.
- *Model 6.* Determining what alternative foreign trade strategies might mean for long-run growth.

Applications to intertemporal issues

The seventh model is a modification that goes beyond intertemporally decomposable growth paths to show the determinants of intertemporal substitution in a two-period, two-sector dependent economy.

- *Model 7.* Determining the optimal borrowing strategy for a country that faces external borrowing constraints linked to its fiscal position.

These economywide simulation models are good tools for quantifying the tradeoffs in policy packages that the Bank discusses with its clients. Future modeling exercises would nevertheless benefit from direct econometric estimates rather than "borrowed" parameter estimates.

This paper is a product of the Trade Policy Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Carmen Hambidge, room N8-069, extension 61539.

4. Inflationary Rigidities and Stabilization Policies

Miguel A. Kiguel and Nissan Liviatan

A tight fiscal stance can stop episodes of hyperinflation. But it cannot, on its own, overcome the inertia of rising prices in countries suffering chronic inflation. Such countries can nevertheless strengthen their stabilization efforts by anchoring nominal prices to the money supply or the exchange rate.

Orthodox stabilization policies — those based on a tight fiscal stance — are very effective to stop hyperinflation, as in Bolivia in 1985. Wage and price inertia are eliminated through the process of hyperinflation, while the unsustainability of the process makes a serious stabilization program credible.

The orthodox approach has been less successful in chronic inflation countries. We distinguish three types of orthodox stabilization programs all of which include a tight fiscal stance. The first one is based primarily on the fiscal adjustment, as was the case in Brazil and Mexico in the early 1980s. We argue that this approach is ineffective in dealing with inflation, especially when undertaken in the midst of a balance of payments crisis. The second type includes a money crunch (as in Chile and Argentina in the mid-1970s), and the third uses the exchange rate as the main nominal anchor (as in the "Tablitas").

Disinflation during these experiences has at best been slow, and in some cases inflation accelerated during the stabilization programs. Price inertia, and lack of credibility created insurmountable difficulties that led in many cases to the abandonment of the program.

Persistence and discipline, however, can make the orthodox approach succeed. The Chilean experience is useful in this respect. More than a decade of fiscal restraint, and a consistent use of different nominal anchors eventually achieve stable low inflation. There were also the drawbacks of low average growth and severe crisis along the way. We conclude arguing that "heterodox" programs might provide a suitable alternative.

This paper is a product of the Debt and Macroeconomic Adjustment Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Miguel A. Kiguel, room N11-059, extension 61761.

5. Comparisons of Real Output in Manufacturing

Angus Maddison and Bart van Ark

International comparisons of real output and productivity should rely not on official exchange rates but on standardized valuations of the different elements of output.

The most direct way of comparing output in different countries is to use the official exchange rate to convert GDP in one country's price into the price of another country — and in multicountry comparisons to convert it into a common currency, such as the U.S. dollar. But exchange rates mainly indicate the purchasing power of currencies over tradables, not the average purchasing power of currencies over all goods and services. And even for tradables, the use of exchange rates is problematic because of currency fluctuations and capital movements.

With the measurement of comparative real output across countries intertwined with assessments of purchasing power, the question becomes: what is the best way to make those assessments. Most purchasing power parities have been developed for the components of final demand — for consumption, investment, and so on. This expenditure approach is useful for looking at an entire economy but it cannot be used directly for analyzing individual sectors because it does not show real product by industry.

The production approach used here looks at the industry of origin — and provides a basis for growth accounting, comparative structural anaylsis, studies of technological performance, and work on labor productivity and total factor productivity.

The method essentially takes the value of output in national prices and uses unit values from census data to standardize ouput uniformly and consistently. So, rather than use a common conversion factor (the exchange rate) it uses a standardized basis of valuation.

Applied to the manufacturing sectors of Brazil, Mexico, and the United States, the revaluation of output in national and U.S. prices provides a sounder basis for constructing relative indicators of productivity. It also reveals much about trade protection policies and their incidence on different sectors of the economy.

The approach shows, in addition, which data are anomalous and which analytically useful in industrial censes. It thus provides important lessons for the development of the Bank's data base — on how to increase its reliability and improve its relavance to operations. It also shows how new insights might be gained by exploiting some official sources which, though rich in detail, often remain untapped by international agencies.

This paper is a product of the Socioeconomic Data Division, International Economics Department. Copies are available free from the World Ban, 1818 H street NW, Washington DC 20433. Please contact Estela Zamora, room F7-136, extension 33706.

6. Farm-Nonfarm Linkages in Rural Sub-Saharan Africa

Steven Haggblade, Peter B. Hazell, and James Brown

The links between agricultural growth and the rural nonfarm economy, known to be strong in Asia, are weaker in Africa but still important to the rural poor. Crucial for strengthening these links are policies and investments that (1) promote smallholders, (2) improve rural infrastructure, (3) encourage commerce and services, (4) foster the development of rural towns, and (5) explicitly recognize women as key actors in rural development.

Agricultural growth stimulates the rural nonfarm economy through a variety of links — some operating through production relations, others through production relations, others through consumer spending patterns. In Asia these links are strong: a $1 increase in agricultural incomes will generate about 80 cents in additional rural income, mainly among suppliers of rural nonfarm goods and services. In Sub-Saharan Africa, however, these links are much weaker: a $1 increase in agricultural income will generate only about 50 cents of additional rural income.

One reason for these weaker links in Sub-Saharan Africa is that there is less irrigation, which creates jobs in construction and maintenance. Another is the lower population density, increasing the distances to markets and diminishing the competitiveness of remote producers. A third is the pattern of household consumption, with less diversity in both food and nonfood consumption. Government policies and poor infrastructure also put brakes on the nonfarm economy.

Demand clearly is the main constraint on the rural nonfarm economy. So the first task is to get agriculture going — in short, to bring faster agricultural growth to Sub-Saharan Africa. The focus should be on small-scale farming, because of its many links to the rural nonfarm economy. the second task is to be ready when it comes. Here are some key considerations for policy formulation and future research:

- Investment codes and related laws that discriminate against small, rural firms have to be redressed.
- The focus on small-scale, rural manufactiring has to be redirected to include services, which are among the fastest growing rural nonfarm activities.
- Rural towns, crucial for the development of the rural nonfarm economy, have to be assured of adequate economic and institutional infrastructure, especially ground transport, comunications, and efficient credit and labor markets.
- Investments in rural roads and transport systems have to be adequate to ensure that viallagers have easy access to rural towns.
- Investments in people's skills have to accompany the investments in infrastructure to develop all types of rural businesses.
- Direct assistance to rural nonfarm enterprises — such as credit projects, especially those for working capital — can be much more cost effective than technical assistance and projects providing modern workshop facilities.
- Because women will be the key actors in the transformation of Africa's rurla economy — in trading, in processing and preparing food, and in many other services — governments and assistance agencies must explicitely recognize this role and ensure that credit schemes are open to women as well as men.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cecily Spooner, room J2-084, extension 37570.

7. Institutional Analysis of Credit Cooperatives

Avishay Braverman and J. Luis Guasch

If credit cooperatives are to be viable and help farmers, particularly small-scale farmers, they must pay more attention to the design of their operations — to the accountability of managers, to the structuring of incentives, and to the monitoring and enforcement of repayments.

Few farmers have obtained credit from formal sources — this, despite the remarkable expansion of credit throughout the rural areas of developing countries over the last three decades. Small-scale farmers have fared the worst, having been largely screened out of formal credit. The obstacles they face include higher transaction costs, greater perceived risks, and patronizing lenders.

To overcome these obstacles, small-scale farmers have formed organized credit groups and cooperatives. But such endeavors have failed more often than they have succeeded.

The high failure rate of these organizations is of concern for two reasons. They command a large amount of resources. And they are important in the economic development of rural ares, particularly in improving the plight of small-scale farmers.

Because the proper design of these organizations considerably increses their likelihood of success, policies to promote appropriate designs could be much more effective than mere subsidies, the predominant policy instrument so far.

More specifically, the focus of such policies should be on the optimal nature and scope of joint-liability arrangements, on the gathering and use of information in setting incentives, and on the rigidity of enforcement rules.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cecily Spooner, room J2-084, extension 37570. The paper will also appear in Pranab Bardhan (ed.), *Economic Theory for Agrarian Institutions*, Oxford University Press (forthcoming).

8. Prospects for Equitable Growth in Rural Sub-Saharan Africa

Steven Haggblade and Peter B. Hazell

The prospects for equitable growth in African agriculture are good as long as governments monitor land rights, upgrade rural infrastructure, foster farm-nonfarm linkages, and focus agricultural research on crops and technologies important to smallholders.

Improving agricultural technology in Africa has been difficult because of the continent's fragile soils, its patchwork of climates, its poor potential for widespread irrigation, and its weak institutions and infrastructure. So, when advances do occur, they are likely to be limited to specific zones, worsening the regional inequalities and in and between countries.

What, then, are the prospects for equitable agricultural growth in regions that benefit from new technological advances? They are good for several reasons. The distribution of land is no worse in Africa today, and the distribution of income is better, than in Asia before the green revolution. Moreover, there are few landless people in Africa. In addition, the technical packages in the field and the pipelines are scale-neutral, giving no edge to large farms over small ones. For example, improved seeds are suitable for small-scale applications, as are changes in cultivation that conserve moisture. And Africa's social institutions support people with a safety net and, through extended families, redistribute income gains — while non farm activities often provide an important source of income for the poor.

Equitable growth, though possible, is not assured, however. Several research and policy initiatives will be needed to capitalize on the potential

- Research must continue to focus on technologies appropriate for small farms and on crops, especially food crops, important to the poor.
- Policymakers must no longer restrict assistance to two categories of nonfarm activity that are particularly important for equitable rural growth — service enterprises and nonfarm activities of women.
- Rural infrastructure has to be upgraded to permit the widespread dissemination of technical advances and to enable the nonfarm sector to benefit from the increased demand emanating from rising agricultural consumption and production.
- Governments will need to monitor land tenure and tenancy to ensure that landlords and large farms do not monopolize the fruits of technological advance.

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9. Can We Return to Rapid Growth?

Andrea Boltho

Probably not, for the likelihood of spontaneous market forces favoring private investment is slim. A more promising route for returning to rapid growth in the industrial countries is to rely primarily on a government-led expansion to promote investment — something possible only with an unusual degree of international cooperation.

The projections for economic growth in the industrial countries during 1985-95 have been revised steadily downward — to a pessimistic 2.5 percent a year. Can this trend be reversed?

The crucial element in achieving high growth rates is a rising rate of investment, itself a reflection of confidence in the economy. The conditions that stimulate higher investment can result from spontaneous market developments or from sharp changes in economic policy.

Chances that the former will occur, while slim, depend on putting in place policies that favor a surge in investment-led growth. These include reducing government deficits and promoting technological innovation and entrepreneurial activities, particularly by small firms. Maintaining low inflation rates and strong demand are equally important. Despite the existence of many of these conditions for some time, growth has slowed even further.

Expansionary government policies may be a more plausible route, although the pace is crucial. Too rapid an advance could propel inflation; a slower strategy could be too diffuse to overcome the present downturn. Opting for bold efforts is probably more promising, although even here policymakers face skepticism that independent government policies can work in today's interdependent global markets.

One possible solution is to strive for inter-national policymaking and to regain some degree of exchange-rate stability. This kind of international coordination could be the impulse for rapid growth, as it was after the Second World War.

This paper is a product of the International Economic Analysis Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Joseph Israel, room S12-007, extension 31285.

10. Optimal Export Taxes for Exporters of Perennial Crops

Mudassar Imran and Ron Duncan

Governments relying heavily on export taxes for revenue tend to tax commodity exports more heavily, which is consistent with short-run elasticities of demand and supply. But this makes them more susceptible to losing their market share over the long run.

Since the estimate of the optimal export tax is based on the price elasticity of demand and the price response of the commodity from other sources, should policymakers look at short- or long-term elasticities? The difference is crucial, especially where there is a large gap between the two. Governments weighing the optimal export tax have a choice — accepting lower tax revenues now and reaping higher revenues in the future, or setting their sights on high short-term tax revenues and losing out in the long run.

A comparison of the estimated optimal export tax rates for major developing country producers of cocoa, coffee, tea, and rubber with current tax rates shows the following. When the government depends heavily on the tax for its revenue, it taxes on the basis of the short-run elasticities. This tax rate is much higher than if the long-run elasticities were used, which is usually the case when the taxes are a small proportion of government revenues. But the higher tax rate makes the country susceptible to the loss of market share over time because it reduces the incentive for its own producers (while raising world prices) and encourages the substitution of other commodities by other producers.

Actual export tax rates applied by Cameroon and Nigeria on cocoa and by Sri Lanka on natural rubber were much higher than the optimal rate even when based on short-run elasticity estimates and may well have contributed to reductions in their world market shares.

Recent reductions in export taxes by dominant rubber exporters appear to have exerted downward pressure on world prices, which is consistent with theory.

This paper is a product of the International Commodity Markets Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Audrey Kitson-Walters, room S7-053, extension 33712.

11. The Selection and Use of Pesticieds in Bank Financed Public Health Projects

Norman Gratz and Bernhard Liese

Where there is no alternative to chemical pesticides, they should be used with environmental and biological methods to cut costs, reduce contamination, and lower the possibility of resistance to the pesticide.

Three methods are available for controlling vector-borne tropical diseases — environmental, biological, and chemical. Environmental control to permanently alter the conditions that allow vectors to breed and develop is the preferred method, but it is not always feasible. Biological control is species-specific and may only be effective under narrow ecological circumstances.

For control of most diseases, therefore, pesticides are the only alternative. Whenever possible, these chemicals should be used along with environmental or biological methods and the appropriate drug or vaccine. This will cut costs, reduce contamination from pesticides, and lower the possibility of resistance to the pesticide.

Public health officials must be concerned that the compound chosen is safe for the user as well as for inhabitants and domestic animals in the treated area. The method of control must be appropriate for each targeted vector, because there are wide biological differences among species.

Some further considerations in the selection of a pesticide for a public health program to control a particular vector of disease are:

- The chemical must be a narrow spectrum pesticide
- It should be effective in the proposed geographic area
- The target vector should be evaluated to determine if it is resistant to a given chemical
- The proposed pesticide must not pose a hazard to species that are not targeted.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Carol Knorr, room S6-137, extension 33611.

12. Teacher-NonTeacher Pay Differences in Côte d'Ivoire

Andre Komenan and Christiaan Grootaert

Although teachers in Côte d'Ivoire receive a rent component in their base salaries, it does not put them ahead of nonteachers, who are likely to receive better in-kind benefits, bonuses, and commissions in addition to their salaries.

Because base salaries for teachers in Côte d'Ivoire are higher than wages of workers in other occupations, there is some question about whether teachers are overpaid. But other workers widely receive benefits, bonuses, and commissions and earn the same as teachers. Even allowing for higher educational requirements, different types of teachers, and longer vacations, teachers are not better paid than employees in other fields.

Moreover, while salaries for teachers and other workers having similar educational backgrounds in Côte d'Ivoire are almost the same, nonteachers earn twice as much as teachers having similar lengths of service.

Policymakers should thus be cautious when considering budget cuts that would lower teachers' salaries, cuts certain to make the teaching profession less attractive.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rita Vartamian, room J6-011, extension 34678.

13. Objectives and Methods of a World Health Survey

Trudy Harpham and Ian Timaeus

Designing and administering a world health survey will not be easy, but one of the gains from such a survey could be an improvement in the methods governments use to conduct and analyse health studies.

Many developing countries are trying to improve the routine collection of health information by strengthening surveys, censuses, and registration systems. At the international level, too, efforts are under way to provide information on health and health interventions, including statistical reporting programs of the U.N. and the World Bank.

In view of the limited financial resources in the developing countries, would a world health survey complement these health information systems and contribute to long-term health care? Is it reasonable to expect that such a survey could identify the patterns and causes of disease and at the same time measure the effectiveness of investments in health?

Although a series of coordinated country health studies could be valuable, there are many tradeoffs. Considering the variety of health problems and priorities in developing countries, it is probably more important to develop the expertise to conduct and analyze health studies than to devise a standard questionnaire to collect health data. As for the cost-effectiveness of health programs, a world health survey is not the appropriate vehicle for such evaluations, but it can address such concerns as access, coverage, patient costs, and financing systems.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Anelia Menciano, room S6278, extension 33612.

14. The Optimal Currency Composition of External Debt

Stijn Claessens

By choosing the appropriate currency composition of their external debts, developing countries can reduce the exposures associated with exchange rates, interest rate, and commodity price uncertainties.

The increased volatility of exchange rates, interest rates, and goods prices has focused fresh attention on the importance for developing countries of reducing their risks in these markets. These countries generally cannot use such conventional hedging instruments as currency and commodity futures because of a variety of institutional and other constraints. But they can use the currency composition of their external debt to hedge against exchange rates and commodity prices.

The optimal currency composition of their foreign debt portfolios depends on the following factors:

- Domestic production structures.
- The shares of spending on different goods by consumers.
- The relationship between prices for domestic goods and exchange rates.
- The costs and risks of borrowing in foreign currencies.
- The effects of exchange rates on expected receipts and payments in foreign currencies.

What if a country only wants to hedge itself against the impact of commodity price and exchange rate movements and does not want to speculate on relative exchange rate movements? Its optimal currency composition will then hinge on the covariances between commodity prices and exchange rates, the covariances between exchange rates, and expected net foreign currency receipts.

This paper is a product of the Office of the Vice President, Development Economics. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sook Bertelsmeier, room S9-040, extension 33768.

15. Stimulating Agricultural Growth and Rural Development in Sub-Saharan Africa

Vijay S. Vyas and Dennis Casley

Restoring agricultural growth in Africa will require new production technologies appropriate for different farming systems. It will also require eliminating government policies that discriminate against farmers.

Economic growth in Sub-Saharan Africa depends on reversing the region's deterioration in agricultural performance — a reversal that is crucial both for meeting domestic consumption needs and for generating foreign exchange earnings through exports. But efforts to restore agricultural growth are hampered by the ecology of the region, undermined by policies that jeopardize agricultural and rural development, and complicated by sluggish global economic growth as well as agricultural policies in industrial countries.

Given the region's necessary transition from a land-extensive to a land-intensive farming system, attempts to improve agricultural production and to lay the groundwork for sustained rural development will depend on the correct choice of policies. In making these choices, policymakers must consider some important changes in African agriculture:

- Changes in farming systems — from slash- and-burn to multiple-cropping,
- Changes in land rights — from collective ownership to contractual arrangements,
- Changes in institutions — as more formal credit and marketing services become available.

Equally crucial to Africa's agricultural development will be parallel efforts to remove policy barriers that have undercut agricultural production or hurt agricultural productivity. These barriers include high taxes, price controls, unfavorable exchange rates, and inefficient parastatal marketing boards.

In addition to policy reform, long-term improvement in African agriculture will require developing and extending new production tech-nologies. It will also require creating institutional structures to strengthen national research capabilities, and designing policies and investment strategies to improve the links between the farm and nonfarm sectors in rural areas.

This paper is a product of the Agriculture and Rural Development Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hilda Vallanasco, room J2-262, extension 37591.

16. Antidumping Laws and Developing Coutnries

Patrick Messerlin

Antidumping laws can be a back door to protection, jeopardizing trade liberalization in developing countries.

Current GATT-consistent antidumping laws have a strong protectionist drift and a pro-cartel bias. They endanger the very edifice of the international trade system based on GATT rules.

LDCs and NICs are deeply involved in antidumping actions, both as defendants and as prosecutors. Their exports represent 50 to 60 percent of the new cases investigated by the United States and the European Community. They are hurt not only by antidumping actions initiated by other countries but by their own antidumping laws, which may jeopardize their trade liberalization programs.

LDC and NIC involvement in antidumping matters will be a long-term phenomenon, as it is not related to short-term macroeconomic variations. In the Uruguay Round, LDCs and NICs should play an active role in reforming GATT rules to reduce the GATT bias in favor of "injured industries" that compete for imports and to make GATT rules conform more to their ongoing trade liberalization programs.

Why avoid antidumping actions?

• Three years after investigations were initiated, antidumping measures reduced import quantities by 40 percent.

• The measures taken are severe, increasing values roughly 23 percent, on top of other protection. They also encourage price-fixing agreements — and create a trade diversion, particularly for LDC and NIC exports.

• Rents accruing to foreign firms because of antidumping protection are substantial for industrial countries, less important for LDCs, and almost nil for NICs. The costs for foreign exporters are the net result of losses in export quantities and the gains in rents received on the remaining exports (a net loss of roughly 17 percent of initial export values for LDCs and 25 percent for NICs).

This paper is a product of the International Trade Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Salome Torrijos, room S8-033, extension 33709.

17. Economic Development and the Debt Crisis

Stanley Fischer

Debtors and creditors, including the international institutions, should work toward longer-term adjustment plans that ensure debtor countries of adequate resource flows over several years and that lead to needed policy changes during the period of adjustment.

The prolonged debt crisis of those highly indebted countries whose debts are owed primarily to the commercial banks has resisted all the creative financial engineering efforts of the last few years.

The Baker initiative, which built on increased lending flows from the commercial banks and multilateral institutions, has produced only fitful growth. And new financing arrangements have made only a small dent in the debt problem. As for more ambitious schemes, such as an international debt facility, there is little prospect that governments or commercial banks will accept the losses such a facility would recognize.

Thus it is more likely that the current country-by-country approach will evolve — with the introduction of some new assets and perhaps the development of debt conversion techniques in conjunction with long-term adjustment programs. The banks, too, might be willing to grant debt relief if it is associated with a change in economic policy in the debtor country or with guarantees of some type. For some countries, both creditors and debtors might prefer interest rate reductions to write-downs of the debt.

Fundamental policy changes in the debtor countries have been slow in coming. Reforms will be more likely if the debtor nations can be sure that financing will continue over several years. The benefit of such an approach is that it moves toward a longer-term solution to the debt crisis, enabling governments to concentrate on domestic economic management rather than debt negotiations. Because the debt crisis dominates policymaking in these countries, a shift toward longer-term development would itself contribute to growth.

This paper is a product of the office of the Vice President, Development Economics. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cliff Papik, room S9-040, extension 33396.

18. China's Vocational and Technical Training

Harold Noah and John Middleton

China is reforming its vocational and technical education and training to meet the skilled labor requirements of a changing economy.

To attain the number of skilled and semiskilled workers needed for its projected development, China must give higher priority to vocational and technical training and education.

Enterprises are being asked to implement a policy of "training before employment." Rather than hire and train unskilled workers assigned to them by government labor bureaus (the previous system), managers are now expected to require appropriate training credentials of new employees.

Until now, vocational and technical education has regularly been underfunded by government and provided by enterprises. This tradition of enterprise-based training reflects a link between training and industry that many industrial nations are only now trying to establish. But this training has generally been inefficient, overspecialized, and far too time-consuming for what it accomplished.

Authorities in Beijing are encouraging provincial, county, and municipal authorities to attain 50 percent enrollment in secondary schools of general education and 50 percent (greatly increased) enrollment in vocational and technical schools — to support the goal of expanding the service sector and self-employment. The overall pattern will be to strengthen the free-standing secondary technical and vocational schools; to introduce vocational programs in the general education high schools; and to develop enterprise-based skilled workers schools.

The core system of lifetime employment is to be replaced by a system of contract labor, permitting managers to hire workers for fixed periods and allowing workers limited latitude for negotiating compensation and terms of employment in return for surrendering tenure. (The old system of low, nationally determined wage scales remains in place; whether and how a system of bonuses will be used to improve worker-manager incentives remains to be seen.)

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19. Côte d'Ivoire's Vocational and Technical Education

Christiaan Grootaert

Formal vocational and technical education has been geared too much toward jobs in the modern sector, which cannot absorb many new workers. Informal training — chiefly apprenticeship training — doesn't prepare trainees adequately to do account work. To develop the unrealized potential of the informal sector, both formal and informal training should be redirected toward the informal sector.

Côte d'Ivoire spends more of its budget (42%) on education than any other country in the world. Part of its spending on formal vocational education and training should be redirected toward training in the informal sector.

The public costs of formal vocational

and technical education (VTE) per student are four to seven times higher than the costs to individuals because of generous scholarship programs, the high cost of expatriate teaching staff, and the underuse of facilities during the current recession. Specific policy measures that would increase the social rates of return on investments in vocational training and education include:

- Reducing scholarships to VTE students.
- Replacing expensive expatriate (mostly French) teachers with Ivorians.
- Building fewer new buildings and making better use of the old ones.
- Upgrading the apprenticeship system by setting up short-term vocational and technical (especially evening) courses that complement apprenticeship training. These would include courses for the self-employed on, say, credit and marketing to help them run their own businesses.
- Promoting the employment of formal VTE graduates outside Abidjan, the magnet for most rural migrants.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rita Vartanian, room J6-011, extension 34678.

20. Imports and Growth in Africa

Ramon Lopez and Vinod Thomas

Faster economic growth in Africa involves a recovery in the growth of imports — and greater efficiency in their use.

Broad comparisons show that growth is linked to imports, but country comparisons over short periods show the link to be more flexible than fixed. Countries can adjust import intensities in the short term — maintaining growth, even with depressed imports.

For Africa, in these stringent times, a big question has been whether better domestic policies induce structural changes that also spur more growth for each dollar of imports. Put differently, Can African countries reduce their historically high import dependence? Can they resume growth without substantially increasing their imports?

One set of policies affecting the import efficiency of growth includes those that improve the incentives for agriculture and for restructuring the manufacturing sector. Another set includes macroeconomic changes that affect the real exchange rate and the level and composition of public spending. Such policy changes have been under way to varying degrees in several African countries — among them, Ghana, Kenya, Zaire, Zambia, Nigeria, Tanzania, Madagascar, and Côte d'Ivoire.

What, then, are some of the policy outcomes that change the import intensity of growth?

Some shifts reduce import dependence. One is a shift from public consumption to private consumption. Another is a depreciation of the real exchange rate. And a third is a shift to agricultural growth.

By contrast, opening the trade regime and promoting exports would encourage imports (and exports). Restructuring industry to increase its productivity would also increase some imports (but reduce others).

What emerges from this analysis is that some policy changes and structural adjustments in Africa can change traditional import intensities. But if African countries are to achieve faster sustained growth, imports will need to increase substantially from the recently depressed levels. And countries will have to use those imports far more efficiently than in the past.

This paper is a product of the Trade Policy Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please call extension 61679.

21. Effects of European VERs on Japanese Autos

Jaime de Melo and Patrick Messerlin

Even for so highly differentiated a product as cars, voluntary export restraints do not protect domestic industries or consumers. Demand is deflected to unrestrained third countries, the restrained exporter upgrades quality, and consumers end up paying more.

The voluntary export restraints (VERs) that the U.K., France, and Germany negotiated with Japanese automakers show why VERs do not protect domestic industries and probably end up costing consumers more.

First, most EC countries followed suit after the British negotiation with Japan in 1976 (the domino effect).

Second, the VERs did not arrest import penetration by third countries. When Japanese imports were restricted, the French simply bought Italian and German cars.

Third, the Japanese upgraded the quality of cars sold on the French market between 1981 and 1983. (The VER was not strictly binding in France until 1984 and in Germany until 1985.)

Fourth, between 1979 and 1986 French, German, and Japanese producers supplied an increasingly similar product mix on the French car market, whereas the Italians created a distinctly different type of product.

Fifth, in 1984 and 1985 the quota raised auto prices in France about 9%, costing French consumers about 320 million francs and saving only about 300 jobs.

This paper is a product of the Trade Policy Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N8-061, extension 61680.

22. Methodological Problems in Cross-country Analyses of Economic Growth

Jean-Paul Azam, Patrick Guillaumont, and Sylviane Guillaumont

Cross-country studies provide a weak basis for the formulation of economic policies in developing countries.

Many cross-country studies have been conducted over the last 20 years to explain how various factors affect economic growth rates in the developing economies. The data in these studies — which underlie international economic comparisons and serve as the basis for economic policy recommendations — give researchers the systematic and scientific information required for their investigations. But the conclusions are often fragile and sometimes contradictory.

Research results are sensitive to the choices of components, the aim of the investigation, and the type of model used. In general, researchers need to have better statistical data, particularly on economic policy indicators, and must subject the selected sample to careful tests.

Cross-country studies are particularly

unreliable when it comes to estimating the economic impact of government budgetary and regulatory policies. These studies thus provide only a weak basis for developing country economic policies.

This paper is a product of the Socioeconomic Data Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Estela Zamora, room S7136 extension 33706.

23. Cost-Effective Integration of Immunization and Basic Health Services in Developing Countries: The Problem of Joint Costs

A. Mead Over, Jr.

The debate between those who favor delivering comprehensive primary health care from fixed health centers and those who favor delivering selective primary care from mobile health teams can be decided, in principle, on empirical grounds. Key requirements for choosing the more cost-effective approach in a given developing country are (1) an effective measure common to both types of health care programs and (2) an approach to modeling joint costs.

With limited budgets for rural primary health care, developing countries are under pressure to integrate the basic medical services that government health centers provide with the vaccination programs that mobile immunization teams handle. For health planners, the question is whether to organize the integrated services around the fixed health centers or around the mobile health teams. Implicit in this decision is a choice between more comprehensive health care from the fixed center versus more selective care from the mobile teams.

Application of cost-effectiveness analysis is complicated by two inherent difficulties. First, because the two types of health care programs improve the health of different target groups, some common measure of the effectiveness of the two programs must be agreed upon. Here the healthy-life-years saved by the two alternative programs is proposed and implemented as a useful common measure of effectiveness.

The second difficulty is that of modeling the joint costs of simultaneously producing more than one health care service. In some situations the degree of "jointness" of the cost structure and the associated production technology have an important impact on the relative cost-effectiveness of the two alternative approaches.

Using the method described here, economists can address this problem in a way that does justice to both the superior efficiency of the mobile teams and the superior comprehensiveness of the fixed centers. Special purpose models such as this one can guide policy decisions since they are less complex than more general models and can be easily understood by decisionmakers.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Noni Jose, room S6-105, extension 33688.

24. World Bank Investments in Vocational Education and Training

John Middleton and Terri Demsky

The challenge facing future World Bank investment in vocational education and training is to bring past successes in middle-income countries to the lower income countries. Strategies naturally will have to vary greatly from country to country.

World Bank investment in vocational education and training (VET) has averaged $500 million a year in the 1980s. Since 1980 there has been a significant shift away from investments in secondary diversified vocational schools to nonformal training centers and university programs. Investments in industrial training have increased while those in agricultural education have been reduced. This change reflects lessons about the effectiveness of different types of training.

In the past ten years the most striking achievement of VET has been the development of national training systems from nonformal training centers and postsecondary technical education institutions. This has happened largely in middle-income countries, where project investments have emphasized expansion of institutions and the link between training and employment. In middle-income countries all types of training — secondary, nonformal, post-secondary, and VET teacher training — have been successfully established.

Investments in low-income countries, especially those in Sub-Saharan Africa, have been less successful. Implementation weaknesses and stagnating economies have made it difficult to set up any type of training. Efforts are hampered by inefficiency and poor participation. Investment in national training programs has just begun in these poorer countries, and success is uncertain because of continuing economic constraints.

These patterns suggest that the level of economic development and the consequent size and dynamism of industrial employment have a powerful influence on the outcome of investments in vocational education and training. Therefore, future investment strategies should differ substantially among countries at different levels of industrialization.

In middle-income countries where national training systems already exist, VET investments should emphasize rehabilitation, quality improvement, and further development of institutional efficiency.

Some of the lower-middle-income (and larger low-income) countries are in the early stages of developing national training systems and can benefit from the experiences of the more advanced countries. VET investments in those countries should support institutional development and policy issues, including separation of vocational training from other education and development of alternatives to direct government financing.

In small low-income countries, recent Bank experience suggests that resources be concentrated in nonformal training centers, training quality, development of management capacity in training institutions, and aggressive marketing of training opportunities and services.

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25. Israel's Vocational Training

Adrian Ziderman

Vocational secondary schooling costs much more than other types of job training in Israel — and appears not to lead to correspondingly higher earnings.

Eighty percent of the trainees headed for Israel's labor force go to full-time vocational secondary schools that devote a third to a half of the curriculum time to general studies. Students tend to come from a higher socioeconomic level than those in other training programs.

The rest of Israel's vocational students are evenly divided among the Ministry of Labor's remaining three programs. The apprentice attends school one day a week and works on the job the rest of the time. The student is typically a low academic achiever with a low socioeconomic background.

Students in industrial schools spend three days a week in the plant where the school is located and three days in the school. The program is less demanding and more practical than the vocational school curriculum. No tuition is charged and trainees are paid for their work.

The one-year full-time training courses for 16 and 17-year-olds, many of whom are drop-outs, concentrate on practical training. Those who complete the course get additional training in the army during their compulsory three-year service.

Of the four types of training in Israel — vocational secondary schools, apprenticeship courses, industrial schools, and full-time training courses — vocational school is by far the most expensive. In 1977 Michael Borus found that the cost of apprenticeship courses was one-seventh that of vocational schools; industrial schools and training courses cost only a third to a quarter as much. This 7-year longitudinal study confirms Borus' earlier tentative findings, concluding that since post-training earnings were roughly the same for all four programs, the apprenticeship system was the most cost-effective.

These findings echo those of case studies in other countries. But, to conclude that vocational training schools are not cost-effective on the basis of eventual earnings alone is to ignore part of the picture. The goals of the vocational secondary school in Israel extend beyond those of providing usable labor market skills. These wider social and educational goals are largely absent from the narrower and more work-oriented types of training. In any cost-benefit evaluation of vocational schooling, these goals would have to be given more weight.

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26. Changing Patterns in Vocational Education

John Middleton

Investment in secondary vocational schools has declined in favor of nonformal teaching systems, which take a long time and multiple investments to establish. The shift leaves secondary education in need of new direction.

One of the long-standing issues in education development has been productive job training in rapidly changing economies. The argument has been made that vocational secondary schools are not well-equipped for this task — that they often become second-best educational alternatives for young people rejected by the academic mainstream. Although vocational and academic schooling often result in similar levels of education and employment, the higher costs of the vocational schooling make it a less attractive alternative.

In the past 23 years of Bank lending for vocational education and training (VET), there has been a clear shift away from vocational secondary schools toward various forms of training, outside the formal educational system.

Some of the nonformal training programs have been quite successful. Nine characteristics have contributed to the success of three such programs in Korea, Jordan, and Brazil:

1. Long perspective with multiple investments: It took 15 years and more to establish each of the three programs and as many as five project investments.
2. Expanding industrial employment: Industries in all three countries had a strong demand for skilled workers.
3. Small formal beginnings and incremental expansion: The first projects were relatively small and simple. In the middle and later stages the three countries were able to build and expand on their own experience.
4. Responsive planning: The training systems were planned in response to, not anticipation of, employment demand.
5. Early and sustained involvement of enterprises: Sustained efforts were made to link training with employment by involving employers.
6. Evolution of policy and management capacity to match system complexity: As the training systems grew, quasi-autonomous national agencies were created to manage job training.
7. Increasing attention to alternative financing sources: Efforts were made to find financing other than government appropriations from general tax revenues.
8. Investment in quality: The quality and relevance of teaching and learning was improved.
9. Flexibility of curriculum and institutional design: The training institutions that were created could respond easily to changing economic circumstances.

Although investment has been shifting into nonformal training, secondary education is in need of new directions. Diversified secondary schools have not provided that direction, leaving questions about how secondary schools might meet social objectives cost-effectively.

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27. Family Background and Student Achievement

Marlaine E. Lockheed, Bruce Fuller, and Ronald Nyirongo

Prior research has underestimated the influence of family background on student achievement in developing countries.

Past research in developing countries has shown that school-related influences have a greater effect on student achievement than does family background, a finding that contrasts sharply with research in industrialized countries. This has led to the conclusion that schools in developing countries are more effective than schools in industrialized countries.

But the earlier work suffers from conceptual flaws. It has defined family background in material terms and failed to consider other motivational factors. Earlier research has also used measurements (such as level of parental education and occupational status) more appropriate to the industrialized world than to the class structure of the country being studied.

Two studies of student motivational b

havior in Thailand and Malawi address these shortcomings. In the Thailand study, conventional measures of family background (parental education and occupation) were kept constant. Student achievement in both urban and rural settings was related to such motivational variables as educational expectations, attitudes and effort.

The Malawi study employed definitions of family background more relevant to a developing country: labor demands placed on children, basic attributes of houses, and mother tongue. These variables were more consistently related to pupil achievement than were the conventional indicators, parental education and occupation.

If, as these two studies indicate, family background is as important to students in developing countries as in industrial ones, two types of action are suggested. First, education programs could be designed to take into account family background characteristics of students. They might include early intervention programs, such as preschool or a change in school schedules to better meet patterns of child labor. Second, education systems could work to improve student motivation and parental support directly by promoting the importance of education.

In sum: Researchers should be more careful in their modeling of family and school characteristics in the developing world. Failure to recognize the family's early and apparently lasting influence is a failure to accommodate education programs to indigenous realities.

This paper is a product of the Population and Human Resources Department, Education and Employment Division. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rosemarie Rinaldi, room S6-027, extension 33278.

28. Temporary Windfalls and Compensation Arrangements

Bela Balassa

Developing countries that export a single major commodity subject to considerable price instability can even out temporary fluctuations in export prices by setting up compensation arrangements that hold the proceeds of a booming sector in a special fund outside the budget.

Sharp fluctuations in the export prices of a major staple commodity have three jarring effects on economic activity. First, price hikes in a booming sector lead to a deterioration in the position of other exporters as resources are redirected to the desired sector and shortages emerge — and falling prices in a sagging sector affect other, unrelated exports. Second, governments tend to spend additional revenue generated during the boom and to keep on spending even after prices fall. Third, the export surge generates a domestic expansion, bumping up against production limits that bring on inflation and, if a reversal occurs, unemployment.

To reduce the effects of highly unstable commodity prices and increase the government's share in the proceeds of the booming sector, developing countries can funnel the revenue from higher export earnings into a special compensation fund. The fund works like this: By setting up a variable export levy somewhere between the actual export price and an agreed-upon base, the government appropriates the windfall revenues. In a downturn, the fund pays producers the base price.

The fund is set up to handle these transactions outside the budget. This has the effect of:

- Limiting price changes between domestic and imported goods.
- Holding down government spending when export earnings are high (since the spending programs may not be reversible).
- Reining in inflation to prevent a wage-price spiral.

Chile and Cameroon have set up such arrangements. In Chile the aim was to avoid currency appreciation in the event of temporary increases in copper prices. In Cameroon, the government has repatriated only part of the oil earnings, and included only some of these revenues in the budget.

Compensation schemes will work in other developing countries whose major export is a staple commodity, subject to sharp price fluctuations, and which accounts for a large share of gross domestic product. In this way, the exchange rate, the money supply, and the budget will be unaffected.

This paper is a product of the Office of the Vice President, Development Economics. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Norma Campbell, room S9-047, extension 33769.

29. The Relative Effectiveness of Singel-Sex and Coeducational Schools in Thailand

Emmanuel Jimenez and Marlaine E. Lockheed

Single-sex schooling is more effective for girls, but coeducational schooling is more effective for boys in improving student performance in mathematics. The differences are due to peer group effects, rather than to school or classroom charcteristics.

Several studies of the relative effectiveness of single-sex and coeducational schools have shown that single-sex secondary education promotes both academic achievement and orientation, particularly for girls. "Single-sex" education also includes coeducational schools where students are separated into single-sex classes for instruction.

Most studies of single-sex education have made little or no attempt to control for factors such as student background, school type (public or private), and school selection by parent or students. These factors can affect achievement and skew analyses that seek to compare only the effect of single-sex education versus coeducation.

Mathematics test scores of Thai eighth-graders, obtained during the 1981-82 academic year, are compared for students in coeducational and single-sex schools. The study overcomes the methodological problems by holding constant student background, school type, and school selection. Moreover, the study minimizes the effects of non-measured variables such as a student's ability, motivation, or previous achievement. It does this by measuring performance at the beginning and again at the end of the year to focus on the educational "value added" during that year.

Girls in single-sex Thai schools scored higher in mathematics achievement at the end of the eighth grade, but the reverse was true for boys, who exhibited higher scores in coeducational schools. Why was this so?

The largest factor affecting student performance was the student's peer group. The data did not permit an analysis of how peer groups affect achievement, but studies in developed countries suggest that class participation and leadership opportunities are suppressed for girls in coeducational settings and for boys in single-sex settings.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Teresa Hawkins, room S6-224, extension 33678.

30. The Adding Up Problem

Bela Balassa

Rather than market constraint in the developed countries, export growth in the developing countries is largely determined by supply factors. This conclusion supports the views of those who advocate the application of outward-oriented policies in the developing countries.

This paper presents empirical evidence pertaining to the "adding up problem" and the "fallacy of composition." It is shown that, rather than market constraint in the developed countries, export growth in the developing countries is largely determined by supply factors. Thus, the deceleration of economic growth in the developed countries after 1973 was accompanied by an acceleration of the growth of the exports of the developing countries.

It further appears that, under realistic assumptions, the future growth of manufactured trade between developing and developed countries would result in a net employment gain for the latter. This would happen as employment gains in technologically advanced industries employing technical and skilled labor would more than offset losses in industries using chiefly semi-skilled and unskilled labor. At the same time, these losses would occur over a ten-year period, thereby limiting the cost of adjustment.

The cost of adjustment in the developed countries would decrease further if outward-oriented policies gained wider acceptance in the developing countries as these policies ensure the upgrading and diversification of exports and permit increased intra-industry specialization that limits pressures on particular industries in the developed countries. Thus, the argument of the proponents of the fallacy of composition thesis is turned on its head: the difficulties of adjustment in the developed countries can be reduced if more developing countries adopt outward oriented policies, rather than persisting in exporting a limited number of simple manufactures.

This conclusion gains in force if one considers that the foreign exchange obtained through the exportation of manufactured goods is spent by the developing countries to purchase manufactured goods from the developed countries. Thus, the balance of trade does not change and, under outward orientation, the increment in foreign exchange is often utilized in the same industries via intra-industry specialization.

Also, developing countries can export to other developing countries. With the industrialization of outward-oriented countries, they can increasingly exchange manufactured goods with countries at lower levels of development, thereby providing an impetus to their economic growth without encroaching on developed country markets.

The findings of this paper have important policy implications. They support the views of those who advocate the application of outward-oriented policies in developing countries. This conclusion is strengthened if consideration is given to the possibilities of increased trade among the developing countries themselves. Finally, outward orientation promotes efficient import substitution through the reform of the system of incentives.

This paper, a product of the Office of the Vice President, Development Economics, is a background paper for the 1988 World Development Report. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Norma Campbell, room S9-047, extension 33769.

31. Public Finance and Economic Development

Bela Balassa

Budget deficits tend to lead to a deterioration of the balance of payments. Furthermore, increases in government consumption and the public investment have adverse effects on economic growth.

This paper reports on tests of alternative hypotheses as to the effects of a budget deficit, examines the influence of the size of the government on economic growth, and investigates the impact of public investment on private investment, total investment, and economic growth.

The econometric results provide evidence that a substantial part of the budget deficit of the developing countries is externally financed. Also, the budget deficit appears to adversely affect private investment. However, a correlation between the budget deficit, on the one hand, and the money supply, inflation rates, and economic growth, on the other hand, has not been observed.

At the same time, there is a negative correlation between the ratio of government consumption to GDP and economic growth. This relationship applies to all developing countries as well as to the regional subsamples of countries in Africa, Asia, and Latin America.

Finally, there is a negative correlation between public investment, on the one hand, and private investment, total investment, and economic growth, on the other. It further apppears that the negative effects of public investment on economic growth can be decomposed in two parts: their adverse impact on total investment and their unfavorable influence on the efficiency of investment.

These findings have important implications for the developing countries. They show that budget deficits have adverse effects on the balance of payments as well as on domestic investment. It further appears that increases in government consumption adversely affect economic growth. Finally, increases in public investment not only crowd out private investment but tend to lower the efficiency of investment, with adverse effects on economic growth.

The conclusions point to the need for reducing budget deficits in developing countries. They further favor lowering government consumption as well as public investment in these countries.

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32. Municipal Development Funds and Intermediaries

Kenneth Davey

Where rapid urbanization strains the capacity of local governments to provide necessary public services, municipal development funds can channel new investments *to municipalities and strengthen local government.*

Urban populations are growing at nearly double the rate of population growth in developing countries, putting considerable pressure on local governments to expand their physical and social infrastructure. Crowded cities are short of funds and unable to attract investments to expand the facilities, services, and enterprises needed to upgrade urban areas. To compound the problem, municipal governments, which bear most of the responsibility for urban areas, lack the financial and technical resources.

One way to route new investments to local municipalities is to establish municipal development funds. These funds lend money to municipal clients (or provide a mix of grants and loans) for long-term conventional investments in urban infrastructure, commercial plants, housing, and other important facilities.

These funds have attracted the support of international aid donors because they offer a way to provide wholesale funding for a wide range of urban investments. Most of the recent aid projects are at an early stage. Donors have focused on developing appraisal skills and establishing technical standards for the projects, but equity is a prominent objective, particularly for investments in water supply, sanitation, and other neighborhood improvements. Typically the funds combine financing with measures to strengthen the financial and technical capacity of local governments.

To date, a few of these funds have improved the capacity of local governments to operate, expand, or recover costs. But the record of recent minicipal development fund programs is better. The new funds improve the distribution of funding for urban investment and strengthen municipal governments..

This paper is a background paper for the 1988 World Development Report. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

33. Fiscal Policy in Commodity-Exporting LDCs

John Cuddington

Commodity-exporting countries have sometimes found themselves worse off after a boom than before it, due to fiscal mismanagement of the boom proceeds. Good fiscal control during booms can temporarily accelerate the rate of economic development.

Revenues in countries that rely heavily on one or two primary commodities tend to fluctuate widely with prices in international markets. This fluctuation is especially wide when export taxes are a large part of the total tax base but also when the private sector reaps most of the gains from booming prices.

Most developing countries have over consumed in response to windfalls from surges in world prices. In many cases government spending has outstripped the gain in revenues. These sharp increases in government spending are difficult to reverse when the boom ends and often lead to large fiscal deficits rather than surpluses.

Countries like Cameroon and Colombia, however, whose policies emphasized conservative fiscal management, have generally benefited from booms. The most effective government policies:

- Allocate public investment programs to sound projects that do not involve burdensome recurring costs.
- Keep government spending at levels consistent with long-run budget expectations.
- Maintain prudent external borrowing and foreign exchange reserve policies.

Programs along these lines have the potential to reduce a country's debt and restore economic growth.

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34. Fiscal Issues in Macroeconomic Stabilization

Lance Taylor

Rather than market constraint in the developed countries, export growth in the developing countries is largely determined by supply factors. This conclusion supports the views of those who advocate the application of outward-oriented policies in the developing countries.

A key question for stabilization programs is this: How do governments get into fiscal difficulty in the first place?

Three views predominate: the political deficit, the structural deficit, and the inflation tax. In the first view, the state is forced toward taxing too little and spending too much, both to pay off specific interest groups and to sustain employment through aggregate demand. In the second view, the economy suffers a contractionary shock — such as falling terms of trade or interest rate incursions on external debt — which the government tries to offset by fiscal means in the short run. In the third view, the state indulges the desire to use revenue from the inflation tax in the absence of other sources.

Fiscal deficits thus have numerous causes — not all of them irrational, not all adding to aggregate demand. Reducing the deficit is nevertheless the sine qua non of orthodox stabilization packages. How does such austerity affect an economy's chances of achieving the normal policy goals of:

- Maintaining socially acceptable capacity use and growth?
- Keeping inflation tolerable?
- Altering the distributions of income and wealth?
- Maintaining self-reliance in trade and external finance?

It makes each of these tasks harder, because of the incomplete understanding of the likely effects of fiscal measures.

First, policymakers need to know more about the specific effects of different policies. For example, cuts in public investment may also cause private capital formation to decline. Changes in the prices that public enterprises charge for food or essential services can have strong distributional repercussions. And the bidding up of interest rates can, if accompanied by other incentives, make capital repatriation and emigrant remittance more likely.

Second, fiscal measures should not be independent of other policy moves. If devaluation causes contraction, teaming it with fiscal restraint may lead to extreme losses of output — the overkill for which orthodox programs are often criticized.

Third, fiscal measures can sometimes substitute for other (less savory) policy changes. For example, the narrower and more directed fiscal interventions can avoid many of devaluation's unpleasant economywide effects (political visibility, output contractions, and price inflation because of the higher costs of imported inputs).

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35. Improving the Allocation and Management of Public Spending

Stephen Lister

The reforms most needed to rehabilitate a developing country's planning and budgeting system are generally simple organizational measures, not sophisticated analytical techniques.

When a country's planning and budgeting system is dilapidated, an important first step is to rehabilitate basic budgetary and accounting functions and to generate public expenditure data that can provide a starting point for rational planning. Other basic measures include:

• The budget process should first determine what resources are available and adopt aggregate revenue and expenditure targets. Then the entire set of public expenditure issues should be looked at simultaneously. If total expenditure is allowed to be the outcome of the aggregation of sectoral bids, the overall expenditure is almost certain to be unsustainable.

• The responsibility for reconciling expenditure bids with agreed overall targets must be decentralized. Sectoral ministries should be given ceilings within which to prepare their estimates.

• It is vital that recurrent and development expenditure programs be considered simultaneously in each sector, since a country's ability to sustain the recurrent costs arising from new investment may be doubtful. In restructuring recurrent budgets, it is important to establish "norms" for the level and distribution of expenditure to provide properly for key services.

• In the long run, the budgeting and planning process should be made public in order to educate public opinion about economic alternatives, build a consensus, and spread responsibility for public spending choices.

• Monitoring development projects and programs requires explicit information on actual expenditures of individual projects and the entire program, including simple breakdowns by implementing agency, sector, source of finance, and so on. For investment programs, it must be possible to relate expenditure information to a financial plan for each project. The use of standardized project profiles for all approved projects is an invaluable technique.

• The financial woes of developed countries increase the value of external aid and the leverage exercised by aid agencies. To minimize friction with aid agencies, governments should exercise careful aid management by monitoring project preparation and implementation, working to minimize project problems, and encouraging dialogue between the government and aid agencies.

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36. Means and Implications of Social Security Finance in Developing Countries

Douglas J. Puffert

Social security systems in developing countries can provide a pool of investment capital to spur economic growth. But many systems now showing surpluses may become insolvent because of poor management.

Social security systems usually cover less than 10 percent of the population of developing countries. Yet in a number of countries, these systems make up a large proportion of public sector revenues and expenditures.

Most social security systems in developing nations are running substantial surpluses. If the systems are to meet future obligations, reserve funds and surpluses should be invested in safe assets with real positive rates of return.

But many countries lack well-developed financial markets and good domestic opportunities for productive investment. The government usually controls social security systems — and often uses the surpluses to finance government deficits.

Economists are divided over how social security systems affect private saving and capital accumulation, which leads to long-term growth. They also disagree on the inefficiencies which social security systems introduce into labor markets.

It is clear, however, that investing social security funds in government securities increases the risk of the social security system's
insolvency.

Governments facing fiscal difficulties find it tempting to expand the money supply and drive up inflation. This cuts government obligations to social security reserve funds by reducing the real value of the investments in government bonds.

There is also constant pressure for many governments to increase benefits without increasing contributions. Although such action is expedient, it often proves unsustainable. A government's ability to resist such pressure thus has a direct bearing on the long-term success of the system.

One system that stands out as sound, with wisely invested reserves, is the regulated private social security system in Chile.

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37. Black Market Premia, Exchange Rate Unification and Inflation in Sub-Saharan Africa

Brian Pinto

The black market premium on foreign exchange is an implicit tax on exporters. Therefore, eliminating the gap between the official and black market exchange rates without raising taxes or cutting government spending could raise inflation substantially.

The links between exchange rate and fiscal reform are developed for countries where the black market premium on foreign exchange is exceptionally high, often exceeding 100 percent, as has been recently observed in Africa. Exchange rate reform is motivated by the allocative goal of stimulating exports through real depreciation. By interpreting the premium as a tax on exports, it is argued here that this goal is equivalent to reducing the premium, or unification of official and black market exchange rates.

Unification also has fiscal implications. In the common case of government's being a net buyer of foreign exchange from the private sector, there is a trade-off between the premium (tax on exports) and inflation (tax on domestic money) in financing the deficit. Therefore, unification could raise the inflation substantially as the lost revenue from exports is replaced with a higher tax on money. This will occur even if real government spending remains constant, unless there is a fiscal response to compensate for the loss of export revenues.

The analytical ideas are illustrated with the unification experiences of Ghana, Nigeria, Sierra Leone, Zaire, and Zambia. In order to avoid costly surges in post-unification inflation as recently observed in Sierra Leone and Zambia, exchange rate reform may have to be slowed down to accommodate fiscal reform. This applies especially when the premium is high, with significant revenue and redistributive implications, and policy credibility is low. Even so, discrete maxi-devaluations might be preferable to accelerated crawls. Based on the country experiences, some guidelines are suggested for the transition to unified rates. Lastly, a changed emphasis in policy conditionality is argued for.

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38. Intergovernmental Grants in Developing Countries

Larry Schroeder

The method a central government uses to transfer funds to local jurisdictions can greatly affect a country's development efforts. But the effects of the transfers are seldom analyzed, resulting in intergovernmental grant systems that fail to achieve their desired objectives.

A country's grant system is the product of its political environment. Such systems tend to develop over time in response to current political needs and then become institutionalized. Since they have developed in a haphazard fashion over time, grant "systems" commonly are not systems at all. Hard-pressed government ministries seldom undertake any thorough analysis of these arrangements, hence their overall impact is unknown in spite of the importance of this use of resources.

Grants from central governments become more important sources of local revenue as local governments are expected to play larger roles in the provision of public services.

Grants are used in hopes of achieving a wide variety of goals. One common rationale for intergovernmental grants is to redistribute national income or equalize living standards by helping governments deliver public services in economically depressed areas.

Since transfers may be seen locally as "costless" gifts from the higher level of government, there is little pressure on localities to mobilize resources of their own or to spend the funds efficiently. Few developing countries have the resources to conduct audits to ensure the accountability of local government spending.

The goal of assisting decentralized decisionmaking by transferring funds to local units can also conflict with the objective that central government revenues be spent efficiently. Decentralization implies local control over the use of funds; the desire for effective use of centrally collected funds calls for considerable oversight of local spending.

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39. Fiscal Policy in Low-Income Africa

Stephen A. O'Connell

Fiscal restraint, a precondition for economic recovery in much of Africa, should go hand-in-hand with improved public sector efficiency in delivering basic human services and upgrading infrastructure.

In many African nations, the fiscal balance is extremely fragile, so fiscal restraint is necessary for stabilization and adjustment efforts to succeed.

Governments tend to increase public expenditures when export commodity revenues are high — and maintain public spending even after revenues fall. This is a formula for building unmanageable debt. Botswana and Cameroon, which exercised restraint during boom times, are exceptions to the rule in Africa.

Inflation, driven by public spending, has serious consequences such as the erosion of the real value of taxes, adding to public deficits. However, attempts to reduce inflation through fiscal austerity may have undesirable side effects, if austerity is pursued in the wrong way when public sector real wages are driven down below subsistence, productivity is reduced.

Low public sector productivity results in poor delivery of human services, the deterioration of infrastructure, and low generation of revenue, hindering economic growth.

Fiscal deficits drove real exchange rates up in the late 1970s and early 1980s — and fiscal policy should now facilitate real depreciation adjustment by pulling deficits down.

External aid has often supported unsustainable fiscal policy. Far from lessening the need for structural adjustment, it should now be used for rehabilitation and infrastructure development.

Market-oriented exchange rates are not a substitute for fiscal restraint, but a complement. Flexible rates alone failed in Zambia and Sierra Leone. Combined with prior fiscal restraint, however, they succeeded in Ghana.

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40. Financial Deregulation and the Globalization of Capital Markets

Eugene L. Versluysen

Rapid financial deregulation and the globalization of capital markets have led to dangerous financial volatility that could have a destabilizing impact on major economies. To reduce this volatility, new regulation may be needed.

Financial deregulation in recent years has vastly increased the ability of financial markets to allocate international capital efficiently. It has also sparked explosive growth in financial transactions and resulted in a restructured, more competitive, and less costly financial services industry.

But deregulation has proceeded so rapidly that the volume of purely financial transactions now greatly exceeds that of transactions driven by international trade in goods and services. Financial activity is now "delinked" from other factor markets and increasingly driven by speculation for short-term profits rather than by broader economic activity.

This new pattern has led to growing economic uncertainty and instability. Markets now run around the clock and respond so rapidly that there is a growing danger of chain reactions that could precipitate global market failures.

Deregulation has also made the conduct of national monetary policy more difficult and the monitoring of markets more complex. For the United States, deregulation has increased the abillity to borrow abroad, thus contributing to fiscal laxity. In that country, there is a need for a single regulatory agency to coordinate the supervision of related financial activities — to lessen the risk of compounded market failures.

Some countries, such as England, have moved to strengthen the capitalization of banks and securities firms. Others (Canada, France, Italy, and Spain) are making progress. But there is acute need for improvement in the United States, where many large banks are undercapitalized in relation to their exposure on LDC loans.

Regulators in the major trading nations need to address the possibility of a full-scale breakdown of the financial system.

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41. Urban Property Taxation in Developing Countries

William Dillinger

The property tax can be an efficient, equitable means of financing municipal services in developing countries, but in most countries it needs reform.

The property tax is the most widely used source of municipal tax revenue in the developing world, but its current yield is often insubstantial.

Poor policy often sets tax rates too low, offers excessive exemptions, and fails to adequately respond to inflation. Poor administration results in incomplete tax rolls, haphazard valuations, and low collection efficiency.

To increase the yield and improve the fairness of the tax, both the policy and administrative problems must be addressed. Tax reform too often consists of a one-time general revaluation or rate increase. Taken alone, neither has a sustained impact on the property' tax's performance.

Tax policy must ensure that rates are set high enough to make the tax worth collecting. Where significant inflation exists, a policy of annual adjustments in rates or valuations should be instituted.

Administrative reforms should support simple procedures for property discovery and valuation, suited to the characteristics of the local tax base and the skills to the taxing authority. Procedures for updating property records to reflect changes in the tax base deserve particular attention. Collection systems should be designed to make compliance convenient; and noncompliance subject to costly, swift, and sure penalties.

Central governments can achieve reform on a nationwide scale — even where the property tax is locally administered — by delivering standardized packages of training and technical assistance to local governments.

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42. Government Pay and Employment Policies and Government Performance in Developing Economies

David L. Lindauer

Excessive spending on public employment has contributed signicantly to fiscal crises in many developing nations. Less visible, but also important for development, is the impact of pay and employment policies on government performance.

Governments should pay more attention to the influence of pay and employment policies on their ability to provide goods and services efficiently.

Rapid and sustained expansion of government employment is common in developing nations. Governments often find it politically difficult to dismiss public workers, even in the face of rising deficits.

An increase in public employment without a commensurate increase in complementary inputs can add to labor redundancy. Increases in salary costs may also crowd out expenditures for materials, equipment, construction, infrastructure, and other inputs.

Many governments use public jobs as a means of lowering urban unemployment. This frequently results in a bottom-heavy structure, with employment concentrated in lower salary grades, and far too many workers for managers to use effectively.

It is also common for governments, in times of fiscal crisis, to reduce the relative pay of more skilled and experienced personnel rather than fire less skilled and redundant labor. This prompts some managers and professionals to quit and leads others to reduce their work effort or moonlight. It also takes a toll on civil service morale and discipline.

A recent study of government policies in Sub-Saharan Africa found, for example, widespread declining levels of real pay, especially at higher salary grades, and excessive compression of the government pay structure. These policies have contributed to growing government inefficiency.

Government employment practices need to be reformed not only because growing wage bills are outpacing tax and export revenues, but also because effective public administration is so important to development. In many countries, a smaller, better-paid civil service might outperform a larger, more poorly paid work force. Because government economic and social roles are so large in many countries, better performance would mean faster development.

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43. Tax Administration in Developing Countries: Strategies and Tools of Implementation

Tax Administration Division

(TO COME)

44. The Size and Growth of Government Expenditures

David L. Lindauer

Over the last 20 to 30 years government spending as a share of GDP has grown worldwide. But in comparing developing and developed nations, the current levels, growth rates, composition, and determinants of government expenditures exhibit significant differences.

The growth of government in the developing economies is compared with the experience of the industrial countries. Relying on measures of government expenditure as proxies for government size the following is observed:

- In the developing nations, central government expenditures as a share of GNP range from 10.8 percent to 62.1 percent and exhibit greater variance than is found in the industrial countries.
- Developing economies, especially the low-income nations, devote, on average, smaller percentages of GDP to government spending than do OECD countries. But compared with the historical experience of the industrial nations, low and middle income nations already consume much higher fractions of GDP.
- For the last 20 to 30 years, expansion in the share of government spending as a percentage of GDP appears to have been the norm in both developing and developed countries.
- Transfer payments in developing nations are still at low levels when compared with advanced economies but appear to be growing quickly. Government consumption expenditures tend to be growing faster than GDP.
- Available data make it difficult to draw firm conclusions about what increases in government input costs versus increases in the level of public output contribute to the growth in public spending.

Numerous arguments can be raised to explain why the size of government relative to GDP has grown in most developing nations. Demographic factors, preferences for public provision of goods and services, and increasing unit costs of government production are all likely to have been influential. Development theorizing itself as well as the "demonstration effect" of advanced capitalist and socialist economies may also have played a role.

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45 - 60 Assigned to the background papers of the 1988 World Development Report.

61. Student Performance and Schools Costs in the Philippines' High Schools

Emmanuel Jimenez, Vicente Paqueo, and Ma. Lourdes de Vera

Private schools in the Philippines are substantially more effective than their public counterparts in teaching language skills, and much less costly per pupil than public schools.

A key consideration in the policy debate on the appropriate role of private schools in predominantly public school systems is cost effectiveness. The questions are: Do private school students learn more than their public school counterparts? And is it more or less expensive to educate students in private schools?

Past studies in the Philippines and elsewhere have claimed that the educational achievement of students in the private schools is higher than that of students in public schools. These studies provide, however, only weak evidence regarding the relative cost effectiveness of public and private schools. A fundamental weakness is the potentially serious problem of selectivity due to unobserved differences between the student population of each type of school. Most of the studies do not compare costs in the two types of institutions.

Taking selectivity into account, the paper finds that controlling for the effects of students' socioeconomic background, individual motivation, and innate ability, the private schools show a significant edge over public schools in both English and Pilipino (about 15 percent of the sample mean achievement scores). Public schools, on the other hand, had a slight (roughly 4 percent) advantage in mathematics.

A comparison of cost per student reveals a substantial advantage for private schools: public schools in the Philippines spend on average roughly twice as much as private schools. These findings strongly suggest that private schools are an efficient purveyor of secondary education in the Philippines, a conclusion that should be taken into account in the formulation of policy measures that could threaten the existence of such schools.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Teresa Hawkins, room S6-224, extension 33678.

62. Universities in Arab Countries

George I. Za'rour

The quality of higher education in the Arab world has suffered because of the rapid growth of university systems. Despite popular demand, several Arab governments are questioning the wisdom of continuing to expand these systems.

Half the Arab universities in existence today were established after 1970. Enrollment has increased even faster — leading to overcrowding, unqualified faculty, and insufficient equipment and facilities.

Several Arab nations have already moved to control (in some cases, to reduce) enrollment. They have done this partly because of the fall in oil revenues and partly in recognition of the problems related to the rapid growth of the university systems.

Open admissions policies in some systems have led to high failure and dropout rates, as well as to the shunting of many students by default into "schools of last resort:" the arts, social sciences, and law.

As student enrollment expanded rapidly, the quality of education suffered and many universities became less attractive to highly trained faculty. This pattern has contributed to national and regional brain drain.

Overcrowding has also led to a greater reliance on lecturing as a means of instruction, a method not particularly conducive to the development of critical or incisive thinking. Faculty accessibility and strong faculty support for student development seem to be the exception rather than the rule at many Arab universities.

Instruction in French or English, sometimes necessary because of a shortage of Arabic-speaking faculty and a lack of appropriate Arabic texts, hurts students not proficient in those languages.

The cost of underwriting university

education at a time of slow economic expansion raises the issue of whether it is better to have unemployed high school graduates or unemployed university graduates.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cynthia Christobal, room S6-035, extension 33640.

63. Does Japan Import Less Than It Should?

Kenji Takeuchi

Conflicting studies on Japan's imports of manufactures leave open the question of whether the country's import volume is lower than normal.

Japan's continuing large current account surpluses have promoted a series of investigators to examine the volume and the structure of the goods that Japan imports.

The usual charge is that Japan's level of manufactured imports is too low and that it is low because Japan has erected a wall of trade barriers that limits access by foreign suppliers of manufactured goods. Recent studies have looked at this question to see if Japan's overall imports are lower than they should be, and specifically if Japan imports fewer manufactures than other industrial countries.

A review of the econometric literature gives diverse results. Gary Saxonhouse, Luca Barbone, Marcus Noland, and C. Fred Bergsten and William Cline found no strong evidence that Japanese imports are abnormally low when allowances are made for economic circumstances. But other economists came to the opposite conclusion. Bela Balassa, Kazuo Sato, and Robert Z. Lawrence concluded that Japanese imports were distinctly lower than other countries. Geoffrey Carliner tended to support the latter group.

Japan does import a lower volume of manufactures, why is that so? Is it because of trade and tariff barriers, the Japanese marketing system, or the tastes of Japanese consumers? None of the studies resolved these questions.

This paper is a product of the International Trade Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jean Epps, room S8-037, extension 33710.

64. Cocoa and Coffee Pricing Policies in Côte d'Ivoire

Takamasa Akiyama

Facing increasingly tough international competition in coffee and cocoa markets, Côte d'Ivoire can increase export revenues from the two commodities 8 percent in 1995 and about 12 percent in 2000 by increasing coffee production and cutting back on the expansion in cocoa production.

Coffee and cocoa are Côte d'Ivoire's two most important commodity exports, accounting for about 50 percent of total exports. In the 1970s, Côte d'Ivoire capitalized on high world prices and a drop in production by other competitors to increase revenues from these crops, but in the mid-1980s the situation changed. Falling world prices and an appreciating currency cut into sales of Ivorian coffeee and cocoa at the same time that international supplies mounted. Brazilian coffee growers increased production after the previous year's drought, and production of cocoa rose in Ghana, Malaysia, and Indonesia. As several major producers backed up their export efforts with aggressive exchange rate policies, Côte d'Ivoire's exporters lost their competitive position.

To offset the slump in revenues, the government will have to reverse this decline in competitiveness. A study of the markets for both these commodities under different pricing and subsidy policies confirms that coffee production should be increased, even at the cost of some reduction in the output of cocoa. This will avoid large government subsidies to cocoa growers and will increase future exports of both products.

One way to do this is to devalue by 10 to 15 percent. Alternatively, the government could reduce cocoa producer prices and increase coffee producer prices. Although either of these policies would overcome short-term problems, a more fundamental change should be considered. Under current market conditions, government-established producer prices are no match for rapidly changing world markets and exchange rates. Unless Côte d'Ivoire adopts a flexible pricing policy, the country may face continuing problems in international competitiveness.

This paper is a product of the International Commodity Markets Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714.

65. Interaction of Infant Mortality and Fertility and the Effectiveness of Health and Family Planning Programs

Howard Barnum

Health and family planning programs can draw on each other's strengths to lower the number of births and reduce infant mortality.

The interaction of fertility and infant mortality is well established. Lower infant mortality can lead to lower fertility by reducing the need for replacement births. Conversely, birth spacing improves the chances of child survival. To find out how these programs reinforce each other, a study done in Indonesia estimated the effects that family planning programs have on infant mortality and the effects of reduced infant mortality on fertility. The research compared the cost-effectiveness of health and family planning programs and looked at whether the interaction of infant mortality and fertility influenced estimates of the costs of both programs.

The results demonstrate a substantial spillover effect, confirming that the interaction does raise the cost-effectiveness of both programs. And the study shows that nonhospital health care is substantially more effective than hospital care at reducing infant mortality.

These findings are sufficiently consistent that policymakers should consider the mortality-fertility interaction as a regular part of the appraisal of health and population projects. Integrated programs offer lower costs and more effective promotion. They also improve efforts to assure infant survival and achieve birth prevention objectives.

This paper is a product of the Population, Health and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact

Sonia Ainsworth, room S6-250, extension 31091.

66. Slowing the Stork: Better Health for Women through Family Planning

Anthony R. Measham and Roger W. Rochat

Family planning saves lives and improves the health of women through fewer births, fewer high-risk pregnancies, and fewer crudely performed abortions.

Each year 500,000 women die from causes related to pregnancy — 99 percent of them in developing countries. While many of those pregnancies are unwanted and could have been prevented by family planning, only a minority of developing country couples use effective contraceptive methods. For some women, pregnancy represents a major health risk. Many of them are among the poorest of the poor, living in rural areas of South Asia and Sub-Saharan Africa, and have low education, high fertility, and poor health and nutritional status.

There is also a huge pool of women of lower risk who want no more children and whose health would benefit substantially from limiting the number of children they bear. In virtually all developing countries, the number of women who want no more children exceeds the number of contraceptive users. What factors determine women's use of contraceptives, and how can family planning programs reach the large numbers of women at risk from further pregnancies?

The most successful family planning policies offer women a variety of contraceptive methods tailored to specific age groups and educational levels. Community-based programs that provide a high quality of family planning services and emphasize the importance of the mother's health will increase the likelihood that these programs will reach women who are not practicing contraception at present.

The question that is always asked is, What will it cost? Much program experience suggests that family planning is one of, if not the most cost-effective means of averting maternal deaths. The savings generated by family planning services could be invested in saving the lives and health of women who do want to have more children.

This paper is a product of the Health Advisor, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact A. Manciano, room S6-141, extension 33226.

67. Price and Tax Policy for Semi-Subsistence Agriculture in Ethiopia

Robert D. Weaver and Saad Ali Shire

Tax and food price policies are important mechanisms for affecting smallholder food supply.

In the case of semi-subsistence agriculture where wage employment is not available, the role played by prices and taxes in determining production and consumption decisions is not clearly established by economic theories of household choice. This study demonstrates that where choices in production, consumption, and leisure can be made independently, farmers will decide what to grow on the basis of their preferences for marketed goods, and will also be affected by the level and type of taxation.

The model shows the impact of four taxes — agricultural revenue, land (either a head tax or a tax based on land area), production, and marketed goods consumption — on crop production and tax revenues. The results demonstrated that a production tax curtailed output while a lump-sum land tax expanded production. The impact of a tax on agricultural revenue or on products sold in the market depends on the farmers' preferences for marketed goods.

For Ethiopia, a model of production was estimated for eight food crops for semi-subsistence households. In general, production responded to changes in relative expected prices, land availability, level of household demand, and sowing period rainfall. Production of teff, wheat, chick peas, and sorghum was found to increase with higher prices, and production of field peas was found to fall. Evidence suggests that expanding the amount of arable land will raise farmers' output of wheat, chick peas, maize, and sorghum.

These results give strong evidence of the role of producer and consumer prices in semi-subsistence agriculture. In addition, the results show the importance of production capacity, household demand, and climatic factors, supporting a balanced approach to agricultural development that recognizes the joint roles of prices, production capacity, and demand.

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68. A Comparison of Lamps for Domestic Lighting in Developing Countries

Robert van der Plas

Electric lights are superior to kerosene lamps in almost all ways — they are far more energy-efficient, but their high front-end costs keep many people from enjoying their advantages.

The average amount of fuel consumed for lighting is much higher in villages without electricity than in villages with it — five times higher in Indonesia, twice as high in India. Moreover, people with kerosene lamps have much lower lighting levels than people with electric lights.

Why, then, do people still use kerosene lamps when electricity is available? Mainly because they fit well with a poor family's spending patterns. The price of a wick lamp is low. The monthly cost of using it is low. And kerosene can be bought in small quantities as needed.

But the marginal cost of adding another kerosene lamp is greater than the marginal benefit. The addition of another lamp neither increases the level of lighting nor improves the quality — but it does increase the consumption of kerosene.

People have figured this out. A survey of a few households in Rwanda and Burundi in October 1987 showed that households relying on kerosene wick lamps use only one for the whole house.

Households with electric lights are accustomed to much higher levels of light — for which they have to finance a connection charge and installation cost and for which they pay more for regular use. Such households typically have four or five lamps in the whole house and good lighting levels in each room.

The difference between kerosene and electric lamps are like those between bicycles and cars: both get you where you want to go but at certain costs with certain benefits. Although both kinds of lamps give light, they are not directly comparable because they differ so greatly in their characteristics: it takes 18 kerosene lamps to give off the light of a single 60 watt incandescent bulb.

This paper, a product of the Household Energy Unit in the Energy and Sector Management and Assessments Division, Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Vonica Burroughs, room S4-035, extension 33635.

69. Does Local Financing Make Public Primary Schools More Efficient? The Philippine Case

Emmanual Jimenez, Vicente Paqueo, and Ma. Lourdes de Vera

Philippine schools that rely more heavily on local sources of income are more cost-effective than those that are more dependent on central funding.

In the highly centralized system of the Philippines, local funding provides the only source of flexibility to meet specific and urgent needs.

The government in Manila, which pays all teacher salaries, finds it easier politically in times of fiscal belt-tightening to cut recurrent costs. Although local funds are relatively small percentage of the education budget, they make an important contribution to covering maintenance and operating costs. For example, the quality of both textbooks and school buildings appears to increase with the level of local funding.

The total cost of education per student also appears to lower in schools with greater local financing, regardless of the perceived quality of the school. Administrators and teachers have greater incentive to be cost-effective when forced to consider the effect of their behavior on the people who live and work in the local community.

The policy implications of these findings for the Philippines are important. They strongly suggest that decentralization will increase efficiency. Without an increase in local funding, the quality of primary education will suffer. Other developing nations, facing similar situations, might also consider more community funding for school systems.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Teresa Hawkins, room S6-224, extension 33678.

70. Vocational Education and Economic Environments: Conflict or Convergence?

Arvil V. Adams and Antoine Schwartz

Macroeconomic policies have a direct impact on the ability of a nation to provide vocational education and training efficiently.

A better understanding of the relationship between economic policies and human capital formation through vocational education and training (VET) will help both development strategists and education planners.

Income policies that make the market less competitive, although designed to correct social inequality, often distort the demand for VET and lead to inefficiencies in its delivery:

- Effective minimum wage policies make enterprises less willing to provide skills training financed by reduced wages.
- Government regulated wage structures that result in wage compression, as seen in many developing countries, reduce the incentive of workers to invest in skills training.

Capital subsidies, and other relative factor cost distortions, may encourage the adoption of capital-intensive technologies that are inconsistent with a country's occupational skills mix and skills training resources. Such distortions will also debase the value of existing skills by accelerating their depreciation.

Trade policies can also influence incentives for efficiency in VET.

- Protectionist trade policies provide shelter to inefficient domestic producers and reduce the market incentives for efficiency in VET.
- Export-led trade policies, coupled with competitive markets for capital and labor, tend to encourage the search for cost-effective forms of VET.

Making economic policymakers aware of the consequences of their policies for human resources development will hopefully lead to the more sensitive development of these policies. By the same token, making those responsible for the development of education and training programs aware of the constraints economic policies provide to their actions will hopefully create opportunities for adapting to these constraints. The paper offers an agenda for the further study of this relationship and its outcomes.

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71. School Effects on Student Achievement in Nigeria and Swaziland

Marlaine Lockheed and Andre Komenan

Student achievement is directly related to effective teaching practices, which differ from country to country. Conventional school and teacher quality variables are found less effective in boosting learning than teaching quality variables.

Multi-level analyses showed that differences between schools accounted for substantial variance in eighth grade mathematics scores in Nigeria and Swaziland. However, conventional school and teacher quality variables, such as class size, length of school year, and teacher education and experience had no effect on student achievement.

The study — the first completely comparable cross-national comparison of school/classroom effects in Africa — shows that differences in achievement not attributable to student family background are largely due to differences in teaching quality (teacher's use of time for lecturing, testing, etc.).

This finding is important because little research has been conducted in developing countries to test the assumption that enhancing student achievement depends on the ability of teachers to manage the learning environment. The study indicates that the size, direction, and shape of the relationship between teaching time use and student achievement vary from one country to another.

In Nigeria, student time spent listening to the teacher lecture was positively associated with achievement, while time spent doing seat or blackboard work had a negative impact. In Swaziland, by comparison, seat and blackboard work had positive effects, but listening to lectures was unrelated to achievement.

Teaching time spent monitoring and evaluating student performance had good results in Swaziland, but no effects in Nigeria. In Swaziland, the use of published materials was negatively related to achievement, while in Nigeria the use of textbooks had a positive effect.

Teacher effectiveness depends on finding the appropriate mix of alternative uses of instructional time. Since this seems to differ according to the locale, more local research on teaching quality is needed.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Teresa Hawkins, room S6-224, extension 33678.

72. The Relative Efficiency of Public Schools in Developing Countries

Emmanuel Jimenez, Marlaine Lockheed, and Vicente Paqueo

Private schools are a cost-effective option for expanding secondary education in some developing countries. They may also provide some lessons for improving the efficiency of public schools.

In many developing countries, the national commitment to universal education conflicts with the necessity for fiscal restraint. One option for expanding education is to charge fees for public schooling.

But recent World Bank studies of secondary level data in Thailand, Colombia, Tanzania, and the Philippines point to a second, more cost-effective option: rely on private schools to handle the growing demand for education.

Private school students generally outperform public school students on standardized math and language tests. This finding holds, even after studies account for the fact that, on average, private school students in these countries come from slightly more advantaged backgrounds than their public school counterparts. In addition, school expenditure data show that unit costs for private schools are dramatically lower than those of public schools.

The comparative advantage of private schools has important policy implications for public schools. Some efficiency gains can come from replicating the input mix (teacher/student ratios, teacher qualifications) of private schools. The data show that private schools, among other practices, make more efficient use of teachers and have better teaching processes (more tests, more homework, orderly classrooms).

Also effective would be to mimic the organizational incentive structures of private schools. Their administrators have considerable economic and bureaucratic autonomy, and are motivated to encourage better teaching practices — using staff more effectively and cheaply — because they must compete for students and remain accountable to parents who pay the bills.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Teresa Hawkins, room S6-224, extension 33678.

73. Taxation and Output Growth in Africa

Jonathan Skinner

A revenue-neutral shift from import taxes and personal and corporate levies to sales or excise taxes may increase growth rates in developing countries.

Can tax policies be designed to encourage economic growth in developing countries? One view holds that by providing the government with a stable source of funding and reducing the current account deficit, tax revenues encourage long-term growth. In this view, the economic distortions aggravated by tax rates are slight in comparison to such institutional constraints as price controls, foreign exchange allocations, and trade quotas.

The other view is that high marginal tax rates constrain long-term economic development by discouraging business expansion, investment, and foreign trade. The contention is that the benefits of a carefully designed, moderate tax structure exceed the costs of budget deficits or spending cuts.

This paper tests these views by measuring the effect of government spending and taxation on output growth. In theory, higher tax rates shift investment and employment to sectors with low — or even negative — tax rates, such as import-substitution or underground sectors. The lower returns to investment and labor in these sectors mean that the economy will generally record lower growth rates.

Data from 31 African countries show the medium- and long-term effects of fiscal policies on growth during 1965-73 and 1974-82. Government investments for the earlier period were sufficiently productive to justify the distortions imposed by the relatively high tax rates necessary to finance them. By 1974-82, however, the return on government investments had fallen to almost zero, suggesting that the burden of personal and corporate taxes led to a contraction in growth. Although taxes on imports did not affect output directly, such taxes reduce investment and thereby indirectly curtail growth. On balance, sales and excise taxes had the most moderate effects on growth and investment.

In sum, a balanced increase in government spending financed by sales and excise taxes, or by a shift from personal and corporate taxes to consumption taxes, can increase growth rates.

This paper is a product of the Public Economics Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Bhalla, room N10-061, extension 60359.

74. Fiscal Stabilization and Exchange Rate Instability

Andrew Feltenstein and Stephen Morris

Cuts in public spending can, in some cases, be inflationary and should be coordinated with appropriate exchange rate and monetary policies.

A perfect foresight, intertemporal general equilibrium model can be used to analyze the fiscal impact of reductions in public spending. The model permits a consistent analysis of government spending, deficit financing, and exchange rate behavior.

It incorporates features important to analyzing public policy in Mexico, including the cost of producing government infrastructure, a tax system and government exchange rate policy similar to those in Mexico, and the estimated savings behavior of domestic consumers.

Mexican public spending increased from 25.6 percent of GDP in 1973 to 46.5 percent in 1982. This rise was accompanied by dramatic increases in inflation, the government deficit, and external debt.

Policymakers look at such a situation and automatically conclude that stabilization depends on reduced public spending. But when applied to Mexican data for 1983-85, the model shows that public spending cuts alone may be inflationary if they cause a reduction in the productivity of private capital.

The model does not estimate the elasticity of private output to public infrastructure. But even if low elasticity is assumed, spending cuts may produce a reduction in private productivity that will have an undesirable effect.

A decline in productivity may outweigh the impact of falling monetary growth rates and reduced budget deficits. If it does, the benefit of spending on infrastructure outweighs its costs. If, however, government spending produces no useful infrastructure, a reduction in spending will have the desired result of reducing inflation.

Various simulations with the model indicate that dogmatic recommendations for spending cuts can at times be counterproductive.

This paper is a product of the Public Economics Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Bhalla, room N10-061, extension 60359.

75. Welfare Dominance and the Design of Excise Taxation in the Côte d'Ivoire

Shlomo Yitzhaki and Wayne Thirsk

The concept of conditional welfare dominance can be used to determine which excise taxes are preferable, both for equity and administrative feasiblity. Applied to Côte d'Ivoire, the technique shows that the most effective excise taxes would be on electricity and telephone services.

There is a compelling fiscal rationale for encouraging greater reliance on taxing the consumption of electricity and telephone (ET) services.

ET taxes are easy to administer. Enforcement and collection of the tax is relatively inexpensive, since the tax can be added to commercial charges, and the services quickly turned off for nonpayment. It is not difficult to distinguish in most cases between business and personal use of these services. ET taxes avoid the problems of smuggling and evasion commonly associated with taxing the production or use of commodities that can be imported.

On equity grounds, in Côte d'Ivoire at least, ET taxes are clearly the most desirable excise taxes. Ranking alternative commodity taxes with high income elasticity, telephone services clearly dominate — and electricity consumption nearly dominates — the taxation of alcoholic beverages and public transportation.

These conclusions on the distributive impact of alternative indirect tax measures are reached through the application of the relatively new concept of marginal conditional welfare dominance. A commodity tax dominates others on social welfare grounds when a marginal shift in the balance of commodity taxation toward that particular commodity enhances social welfare.

Using household budget data, such dominance can be established statistically and shown graphically without resort to normative considerations. This approach suggests that ET services may be an underexploited tax base in many developing countries.

ET taxes may also meet the test of relatively high efficiency if they can be implemented through a two-part pricing schedule that charges a flat fee for access to service and an additional escalating fee for marginal use.

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76. The Shadow Price of a Tax Inspector

Shlomo Yitzhaki and Yitzak Vakneen

To make sure that tax collectors do not abuse their powers and that taxpayers obey the law, governments can analyze the tax administration's methods of selecting and inspecting tax returns.

The effects of tax evasion on tax rates and government revenues have focused fresh attention on the question of tax administration. Because of the difficulties of measuring the consequences of good or bad administration, policymakers cannot rely on a wide range of specific information on this subject.

An economist faced with widespread tax evasion is likely to recommend harsher penalties for violations of the tax law. The argument is that compliance and high penalties go hand in hand. But stiffer penalties only work when the administrators are honest; if they are not, the recommendation may backfire as high penalties increase the power of the tax inspector, and provide incentive for corruption.

Using this model, which shows the process of auditing tax returns as a decision tree, governments can verify that the additional power is not abused and that the administration is efficient. The main idea is to introduce economic considerations into the process of selecting and inspecting tax returns. By calculating the investment in the inspector's time at each stage (the taxpayers is likely to appeal), and the increase in revenue that will result, it is possible to calculate the minimum amount of tax evasion that justifies continuing with the audit — the shadow price of a tax inspector.

The administration can recommend that auditors only pursue a file if the tax increase is high enough to justify continuing the process. By equalizing the return per unit of time, the administration gives the same treatment to all taxpayers. If the guidelines are followed, the productivity of the inspectors will improve as well.

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77. Incentive Policies and Agricultural Performance in Sub-Saharan Africa

Bela Balassa

It has often been said that Sub-Saharan African countries do not respond to price incentives because of rigidities and inflexibilities in their economic structure. This is not the case, however, as this paper *shows.*

Exports in general, and agricultural exports in particular, are more responsive to price incentives in Sub-Saharan Africa than in developing countries as a whole. These are the results of an econometric investigation on the effects of real exchange rates on exports. It further appears that in Sub-Saharan Africa the impact of real exchange rates is greater on agricultural exports than on the exports of goods and services.

Within Sub-Saharan Africa, market-oriented countries generally gained, and interventionist countries lost, export market shares as the former, but not the latter, group of countries maintained realistic exchange rates and did not appreciably bias the system of incentives against exports. The differences in policies, and in export performance, are even greater if comparisons are made between private market economies and étatist countries in a three-fold classification scheme that puts some countries in an intermediate category.

These results are supported by the findings of a World Bank study on agricultural exports in Eastern and Southern Africa. According to this study, industrial protection and overvalued exchange rates adversely affected the exports of the region. Another Bank study has found that in Sub-Saharan Africa agricultural growth rates were higher in countries whose currency depreciated, than in countries whose currency appreciated, in real terms.

Kenya and the Ivory Coast exemplify market-oriented, and Tanzania and Ghana interventionist, countries in Sub-Saharan Africa. Pairwise comparisons between Kenya and Tanzania and between the Ivory Coast and Ghana have indicated the superiority of the market-oriented approach in promoting exports and agricultural production.

This paper is a product of the Office of the Vice President, Development Economics. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Norma Campbell, room S9-047, extension 33769.

78. Economists, Institutions, and Trade Restrictions: A Review Article

J. Michael Finger

Experts on international trade analyze the "new" rationale for trade intervention and conclude it is neither new nor rational.

Experts on the new economics of trade restrictions address such questions as:

Are there holes in the case for free trade? It is difficult to know when there is profit to be captured by trade intervention and difficult to design the appropriate trade intervention policy. A tariff will sometimes capture the foreign profit while a quota will give away the domestic, or vice versa, and as Gary Saxonhouse observes, "Capturing a strategic sector and its attendant economic rents may be very important for firm equity holders without being of much significance for the economy as a whole."

Why are trade restrictions imposed? Trade policy is often aimed at noneconomic objectives. About one sanction in three succeeds in its objective. Is this score good or bad? According to Stephen Krasner, "Since economic sanctions are likely to be used only when other policy instruments fail, this level of success is indeed surprising."

According to Rudiger Dornbusch and Jacob Frankel, "Net foreign demand is a more important determinant of protectionism than domestic demand." (Protection is provided mainly to offset losses of sales to foreign competition, not to compensate for losses attributable to an internal cause such as a shift of demand away from the product.)

How do U.S. policy actions and those of other nations interact? Says the reviewer: "The two principles of policy advice that this book brings forward, 'Rules, not discretion,' and 'Tit-for-tat retaliation,' could be used both to endorse most of the protectionist legislation submitted to the U.S. Congress in the past 20 years, and to indict the GATT as wrong-headed. This is probably a result of policy interpretations made for the convenience of analytical models rather than analysis fitted to the facts of policy."

Says the reviewer about the "us" these economists represent:

We produce a quality product.

We sell it very poorly.

We place self-destructively narrow limits on the topics we will analyze.

This paper is a product of the International Trade Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie T. Artis, room S8-040, extension 33731.

79. Quantitative Appraisal of Adjustment Lending

Bela Balassa

Up to 1987, the average decline in the GDP growth rate in adjustment loan recipient countries was less than in the comparator groups. Similar results are obtained for per capita GDP.

This paper presents a quantitative analysis of adjustment programs in developing countries that received structural adjustment loans or sectoral adjustment loans (for short, adjustment loans) from the World Bank. The method applied has involved examining changes in various performance indicators following the receipt of the first adjustment loan, further contrasting the results with those for comparator groups of countries that did not receive adjustment loans.

At the same time, the loan recipient countries made an adjustment effort in the period following the first loan. To begin with, economic expansion was concentrated in the traded goods sectors, industry and agriculture, both of which experienced an improvement in the loan recipient countries relative to the comparator groups. Also, the growth of consumption declined substantially in absolute terms as well as relative to the non-recipient countries. In turn, an acceleration is observed in the growth of investment that holds the promise for future economic growth.

Furthermore, the average export growth rate fell less in the loan recipient countries than in the comparator groups and a much larger number of countries experienced an improvement than a deterioration relative to the non-recipients. The loan recipient countries also attained a substantial improvement in their current account balance position as their domestic savings ratios declined less than in the comparator groups. Finally, the loan recipient countries improved their relative position as far as external debt indicators are concerned.

Inflation, as measured by the consumer price index, decelerated in a majority of countries receiving adjustment loans vis-à-vis the comparators, although the average increased substantially due to hyperinflation in Bolivia. In turn, money supply growth rates increased more in the loan recipient countries than in the non-recipient countries while real discount rates increase in the majority of the loan recipients. Finally, expenditure-GDP ratios increased less in the loan recipient than in the non-recipient countries.

Data have also been provided for loan recipients and non-recipients in Sub-Saharan Africa, low-income countries, lower middle-income countries, and upper middle-income countries. The results show that the relative position of loan recipients improved in three out of four country groupings in regard to per capita incomes, the exception being Sub-Saharan Africa.

The quantitative appraisal of adjustment programs thus points th the overall success of these programs. This conclusion is strengthened if use is made of weighted performance indicators, the weights being the number of times a country received an adjustment loan. Weighting improves the relative performance of the loan recipients in regard to practically all economic growth indicators, as well as for export growth, domestic savings, external debt, inflation, money supply growth, the real discount rate, and the government budget balance while little difference is shown in regard to the rest of the indicators.

This paper is a product of the Office of the Vice President, Development Economics. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Norma Campbell, room S9-047, extension 33769.

80. Emerging Issues of Privatization and the Public Sector

Samuel Paul

Privatization in developing countries has been modest, with little contracting out of services and a wide gap between plans and achievements — but the push for privatization has limited expansion of public enterprises.

Pressure to move toward privatization has mounted in the face of severe economic crises. Privatization in developing countries has focused almost exclusively on the divestiture of industrial and commercial enterprises, not public utilities or sectors characterized by monopoly. The pace of privatization has been slow and its impact modest. The reasons include the limited resources in the private sector (and popular resentment of foreign investors), the resistance of such important interest groups as labor unions, and the inability of many governments to prepare adequately for the complex tasks of privatization. But as a result of the push for privatization, or reprivatization (the divestiture of nationalized enterprises that were once private), some countries have resisted starting new public enterprises or expanding old ones. And some governments have encouraged joint ventures (with private partners, shareholders, or employees) to limit the flow of government funds and to make public enterprises more responsive to market pressures.

Among developing countries, divestiture has been most effective in Chile and Bangladesh. Africa has moved slower than Latin America. Many developing countries have preferred more informal liquidation of public enterprises — through "mothballing" and slow death (by denial of funds) — because it attracts less adverse publicity than outright divestiture.

Privatization tends to increase efficiency, but only if managers face a competitive rather than a monopolistic environment — which may require not only the sale of public enterprises but bidding for franchises, breaking up monopolies, and removing entry barriers.

Certain issues recur with privatization and the contracting out of services, particularly in the developing countries: the ways competition and ownership affect performance, the tension between multiple objectives (such as generating more cash yet lowering the price of shares to widen ownership), and the proper balance between the enterprise's autonomy and the government's role in regulating market power. The long-term benefits of privatization will not materialize if these issues aren't thought through.

Contracting out of services, an important feature of privatization in Britain and the United States, is rare in the developing world, with such exceptions as Argentina and the Ivory Coast. Contracting out, which is generally assumed to be simpler than privatization, is most effective when competition exists among suppliers, and when government is inexperienced at delivery of the services being contracted out but has incentives to pursue efficiency and is committed to overseeing the contractors.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ernestina Madrona, room N9-061, extension 61711.

81. Reaching People at the Periphery: Can the World Bank's Population, Health, and Nutrition Operations Do Better?

Richard Heaver

How can field workers be expected to serve their most needy clients when program designers seldom try to identify and target these clients, understand their feelings and behavior, or monitor whether they are being reached?

Many population, health, and nutrition (PHN) programs are designed to elicit behavior changes in poor people living at the geographic and social peripheries.

Few programs specifically target the disadvantaged, however, and research about clients focuses mainly on routine statistics rather than on whether education and services do or will meet clients' needs.

The health sector, in particular, has little understanding of what clients feel and why they behave as they do. Yet this is precisely what PHN program designers must know to increase acceptance of public health services among clients most inclined toward early mortality and least likely to accept family planning.

PHN program design should be reoriented to:

- Learn about clients' perceptions and behavior.
- Target the clients most in need of services.
- Give public sector providers of service stronger financial and nonfinancial incentives to understand and reach out to clients.
- Make more use of private or community-based delivery systems that are responsive to client needs.
- Carry out more studies that evaluate program responsiveness to clients.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sonia Ainsworth, Room S6-065, extension 31091.

82. Microeconomic Theory of the Household and Nutrition Programs

Dov Chernichovsky and Linda Zangwill

Whether a nutrition program works depends on whether, and how, individual households make use of it.

Lack of food is no longer the major cause of malnutrition. Many households and individuals remain malnourished when income and supplies of food are inadequate. Nutrition policy and programs must be based on sound knowledge of household behavior patterns. Any increase in household resources, whether through policy programs or through growth and development, stops at the household. The family can allocate the added resources in any way it sees fit — and often does so in ways that are incompatible with better nutrition and related goals.

Taboos about introducing solid foods for infants and appropriate foods during pregnancy and nursing do not change because there is more food in the house. The "shadow" price of food, at the household level, involves such considerations as whether family members understand the nutritional value of foods; are better off selling than eating the food they grow; value time spent earning income more than time spent preparing food or breastfeeding infants (and hence turn to processed foods and bottle feeding); or experience a psychological cost in eating certain foods (as Jews or Moslems would in eating pork, for example).

The microeconomic theory of the household focuses on the household's decision-making about scarce food resources based on such considerations as:

- The size of the family.
- The purchasing power of the family.
- The availability of healthful foods.
- The family's food preferences.
- Environmental variables (such as ethnic traditions and the homemaker's level of education).
- Family health (disease can limit the absorption of nutrients).

Such determinants should be monitored to anticipate malnutrition problems unrelated to food supplies.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sonia Ainsworth, room S6-065, extension 31091.

83. Welfare Costs of U.S. Quotas in Textiles, Steel, and Autos

Jaime de Melo and David Tarr

Protectionism is popular but costly: the United States loses $21 billion a year in welfare costs through quotas on textiles, steel, and autos.

Nontariff barriers prevent a transition to the realities of international competition, and their welfare costs are huge.

The United States loses an estimated $14 billion a year in revenues through rents lost to exporting countries through export quotas. Add another $7 billion for distortionary costs.

Removing the remaining tariffs (an average 3.5 percent in 1984) would produce a welfare gain of about $0.9 billion — for a net benefit of $105 billion, measured in terms of the discounted value of displaced workers' lost earnings over a lifetime.

This paper is a product of the Trade Policy Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karla Cabana, room N8-069, extension 61539.

84. Black Markets for Foreign Exchange, Real Exchange Rates and Inflation: Overnight vs. Gradual Reform in Sub-Saharan Africa

Brian Pinto

Inflation could rise permanently and substantially as a result of unifying official and black market exchange rates, even if real government spending remains constant.

The black market foreign exchange premium is an important implicit tax on exports, creating a conflict between the fiscal goal of financing government spending with a limited menu of tax instruments and the allocative goal of stimulating exports. The premium is solved for in a model that includes the portfolio balance approach to exchange rates, dual exchange markets, and seignorage for financing the fiscal deficit.

The steady-state and dynamic implications for inflation of floats as a vehicle for unifying official and black market rates are then analyzed. Inflation could rise substantially in the new steady state as the lost revenue from exports is replaced with a higher tax on money. Further, the conditions under which undershooting or overshooting occur are parameterized.

The paper is motivated by and illustrated with recent examples from Sub-Saharan Africa.

This paper is a product of the Trade Policy Division, Financial Operations Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N8-061, extension 61680.

85. Wage Responsiveness and Labor Market Disequilibrium

Ramon E. Lopez and Luis A. Riveros

Core unemployment may not affect market wages; transient unemployment does. Policymaking should reflect the distinction.

Core unemployment corresponds to the structural and natural components of open unemployment, while transient unemployment is associated with the labor market impact of cyclical fluctuations.

Core unemployment may not significantly change market wages because it is associated with distortions in the labor market, a mismatch between jobs and workers, and normal turnover.

Core unemployment has persisted in Colombia, which has one the highest unemployment rates in Latin America.

Argentina, which has the lowest unemployment rate in Latin America, experiences relatively higher cyclical employment fluctuations.

Wage policies would be less effective in improving the labor market in Colombia than microeconomic policies — including measures to deregulate the labor market, reduce the wage gap between the formal (protected) and informal (unprotected) sectors, increase labor mobility, and provide more training or job information.

Stabilization and other policies to induce wage flexibility are more appropriate for dealing with cyclical unemployment.

This paper is a product of the Debt and Macroeconomic Adjustment Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Luis A. Riveros, room N11-061, extension 61762.

86. External Balance, Fiscal Policy, and Growth in Turkey

Ritu Anand, Ajay Chhibber, and Sweder van Wijnbergen

How did Turkey — alone among high-debt countries — sustain high real growth after rescheduling its debt? Can it continue on a high growth path and manage its external debt?

Since Turkey rescheduled its debt, its real GNP has grown 5 percent a year — compared with an average 1.2 percent for other high-debt countries.

How did Turkey translate the extra breathing space it got from foreign financing into sustained high real growth?

Turkey's financing needs for large public sector deficits generated high medium-term inflation and high real interest rates. But the thrust of Turkey's program was to keep savings and interest rates up and to improve export performance.

Turkey's well-directed public expenditure program supported the private sector through key investments in infrastructure, special incentives, and credit for export and investment.

Turkey also inherited substantial excess capacity from heavy investment made in the 1970s. This allowed for a quick improvement in output and exports once the exchange rate was aligned.

External debt does not threaten Turkey's creditworthiness. Internal adjustment is necessary for consistency with inflation targets, but tighter external policies are both unnecessary and potentially damaging to Turkey's growth prospects and internal balance.

This paper is a product of the Public Economics Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ajay Chhibber, room N10-055, extension 60102.

87. Vocational and Technical Education in Peru

Peter Moock and Rosemary Bellew

Peruvian vocational and technical students often end up working in the same jobs for the same earnings as academic students — probably because teaching in both streams is largely "chalk and talk" and vocational and technical education students get little "hands-on" technical experience in school.

The costs of the academic and the vocational and technical education (VTE) streams in Peru are very close. What's more, the monetary returns to, and occupational profiles of, graduates of the two streams are almost identical — with one exception.

For the self-employed who live in urban areas outside Lima, the returns to secondary technical education are significantly lower than the returns to secondary general education. This may be because the quality of VTE programs for urban students outside Lima is generally lower than the quality of education for academic students in the same areas.

Why, for other groups, do the two educational streams produce almost identical returns and graduates with similar occupational profiles? VTE institutions, funded at the same level as academic institutions, can't afford the inputs that make VTE genuinely technical, so the students get little "hands-on" technical experience in school. Despite declared differences in emphases and goals, programs and curricula in the two streams are substantially alike — largely "chalk and talk."

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact C. Cristobal, room S6-001, extension 33648.

88. Costs, Payments, and Incentives in Family Planning Programs

John A. Ross and Stephen L. Isaacs

Countries differ in whether they charge clients for different forms of birth control, offer them free, reward people for using them, or penalize people for not using them.

Governments in developing countries — concerned about rapid population growth and the rising costs of family planning programs — face difficult ethical and practical considerations in deciding how to recover costs yet stimulate family planning.

Policies vary widely. Sri Lanka, for example, charges for pills and condoms, offers IUDs and injectables free, and pays the acceptor for sterilization.

Pakistan and the Republic of Korea charge for resupplies of pills, condoms, and spermicide and pay the acceptor for sterilization. Bangladesh and Nepal give resupply methods free and pay the acceptor for sterilization (and, in Bangladesh, for using the IUD).

Turkey, on the other hand, charges for sterilization but provides IUDs, pills, condoms, and diaphragms free. Jordan charges for the IUD and offers the pill free.

Some countries offer community incentives for achieving family planning goals. Some offer families incentives for remaining small. Several countries, especially in Asia, impose penalties on families that exceed the norm.

What practical and ethical considerations shape these policies? This paper reviews current practices and policies in developing countries and considers the ethical issues that each kind of incentive and disincentive raises.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sonia Ainsworth, room S6-065, extension 31091.

89. Export Quota Allocations, Export Earnings, and Market Diversifications

Taeho Bark and Jaime de Melo

Countries adopting voluntary export restraints (VERs) often choose a two-tier quota allocation system, with extra sales to the nonrestricted market at below marginal costs. One result may be the recent increase in antidumping cases.

Countries adopting voluntary export restraints (VERs) often adopt a two-tier export quota allocation system. This system involves a "basic" allocation to the restricted market and an "open" allocation to the nonrestricted market — analogous to sales in one market financing sales in another market.

The two-tier system allows the flexibility required to diversify exports in nonrestricted markets, while fulfilling the established quota in the restricted market. This diversification exacts a cost because it results in extra sales at below marginal cost.

A rationale for pursuit of the two-tier system can be found in the recent history of VER negotiations, in which discussions of VERs between two major trading partners spread to other trading partners as well.

The recent increase in antidumping cases may in part be associated with the adoption of two-tier quota allocation systems.

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90. A Framework for the Analysis of Mineral Tax Policy in Sub-Saharan Africa

Robert F. Conrad and Zmarak M. Shalizi

Overreliance on production sharing and resource rent taxes can expose small, open economies that are neither diversified nor wealthy to unacceptable risks and fluctuations in revenue.

Overreliance on production sharing and resource rent taxes can expose small, open economies that are neither diversified nor wealthy to unacceptable risks and fluctuations in revenue.Given the dual role played by the government as resource owner and tax collector in many Sub-Saharan economies, it is important to separate "resource factor payments" from taxes through the use of different instruments. The instruments to be considered are:

• A factor payment system that includes "ad rem" or "ad valorem" royalties. Production sharing, resource rent schemes, and fixed fees could also be used, but *some form of unit payment is necessary* and justified, because natural resources in the ground are inputs into the production process. Determined in a reasonable manner, such a royalty would signal the opportunity cost of extraction and development, capture the "natural resource rent" and offer an acceptable level of risk to the country.

• A cash-flow and withholding-tax system, initially for the mineral sectors and eventually for other sectors of the economy. The cash-flow tax would capture a share of the "economic rent" from each sector and be neutral across sectors. The withholding system would enable application of an income (as opposed to a consumption) tax base at the individual level.

• A depletion account to preserve the economy's capital stock. Natural resources are part of an economy's capital stock, which will fall unless "replacement investment" is made as the resource is depleted. To ensure adequate saving for this "replacement investment," the account can be funded by the value of depletion each year, equal to the minimum amount necessary to keep the aggregate capital stock constant.

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91. Israel's Stabilization Program

Nissan Liviatan

A disinflation strategy that involved eliminating the fiscal deficit and changing the rules of the government-labor game reduced inflation in Israel from more than 400 percent a year in 1984 to a low 20 percent a year in the third year of the program.

A disinflation strategy that involved eliminating the fiscal deficit and changing the rules of the government-labor game reduced inflation in Israel from more than 400 percent a year in 1984 to a low 20 percent a year in the third year of the program.

The stabilization program Israel launched in July 1985 combined orthodox fiscal and monetary policies with a heterodox incomes policy.

The orthodox elements included a sharp reduction in the fiscal-operational deficit — 8 percent of GNP in the first six months — and tight monetary policy.

The heterodox element was to freeze wages and prices and peg the exchange rate to the U.S. dollar. Wage and price controls were relaxed in 1986 and 1987, leaving exchange rate policy (later pegged to the basket of currencies) as the anchor in the new system.

The national coalition government succeeded in neutralizing pressures for deficit spending. Under government pressure, employers' organizations and organized labor reached a wage agreement in July 1985 that prevented substantial unemployment. This approach — not intended for use in normal times — proved effective in administering shock treatment.

The result? At the end of the program's third year, inflation is running a low 20 percent annually, compared with more than 400 percent in 1984.

Whether stabilization will survive the November 1988 elections remains to be seen.

The stabilization programs in Argentina (in 1985) and Mexico (in 1988) were similar in the initial stages to Israel's.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nissan Liviatan, room N11-063, extension 61763.

92. A Model of Cocoa Replanting and New Planting in Bahia, Brazil, 1966-85

Pravin K. Trivedi

In Brazil, two decades of high cocoa prices and low interest rates sparked significant growth in new planting of cocoa trees. Higher prices and low interest rates encouraged new planting; but higher prices discouraged replanting in the short term while encouraging it in the long term.

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In 1966, 90 percent of the cocoa growing areas in Bahia, Brazil had trees more than 30 years old. By 1985 most of the area had been replanted or supplied with new trees.

Throughout most of this period there were high or rising cocoa prices — and zero or negative interest rates. High prices and low interest rates directly encouraged new planting, but their relationship to replanting is more complex. In the short term, higher prices discourage replanting, which involves uprooting and a temporary loss of revenue. But over the long run, higher prices increase expectations of future profits and encourage replanting.

Lowering the interest rate below its real level provided cocoa growers with a subsidy that encouraged both replanting and new planting.

This paper is a product of the International Commodity Markets Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714.

93. The Effects of Education, Health, and Social Security on Fertility in Developing Countries

Susan H. Cochrane

In most countries, spending on family planning programs is more directly effective for reducing fertility than spending on any other individual service. Education, health care, and social security programs may also help to reduce fertility, but their impact differs from country to country, so the spending mix on these programs should be highly country-specific.

Spending on education does not automatically reduce fertility.

In most countries, spending on family planning programs is more directly effective for reducing fertility than spending on any other individual service. Education, health care, and social security programs may also help to reduce fertility, but their impact differs from country to country, so the spending mix on these programs should be highly country-specific.

Fertility tends to increase, for example, with small amounts of education before falling off at the level of completed primary school. Fertility responds more strongly to female than to male education, and more strongly to education in urban than in rural areas. The specific effect can be measured only by looking at a particular population group.

Health care services that reduce child mortality also reduce fertility when life expectancy reaches a level where couples anticipate the need for fewer children. This differs from society to society and, in general, is a more costly way to reduce fertility than family planning.

The general effect of social security systems on fertility is more difficult to study and to quantify. A preliminary estimate, however, shows it to be the most costly method, compared with education, health care, and family planning.

The cost of averting births, for most countries, appears to be lowest when policy emphasizes family planning. The mix of other programs depends on the country.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sonia Ainsworth, room S6-065, extension 31091.

94. The World Bank's Population Lending and Sector Review

George B. Simmons and Rushikesh Maru

The Bank has established a population policy dialogue with governments — and has successfully differentiated its population activities in different areas of the world. But the Bank's efforts to translate population policy goals into effective programs and projects have been far from successful.

The Bank has established a population policy dialogue with governments — and has successfully differentiated its population activities in different areas of the world. But the Bank's efforts to translate population policy goals into effective programs and projects have been far from successful.

The Bank's decision to target its efforts to "key" countries — such as Kenya, India, and Bangladesh — has proven basically correct. In recent years, the Bank has considerably increased its lending, number of projects, and attention to new areas, especially Africa. In many countries, however, fertility remains high.

The Bank has been more successful in developing policy and creating programs than in running effective projects.

Projects have been commonly run through ministries of health with little regional variation or autonomy and minimal roles for nongovernmental organizations (NGOs) and the private sector. Built-in evaluation has not always been present, and postcompletion evaluation has been late. As a result, projects have not been able to recognize and respond to specific and changing needs, and follow-up projects have been unable to take into account findings of project completion evaluation.

The Bank should be able to improve projects by:

- Developing stronger links with a range of government agencies and NGOs.
- Focusing more attention on institutional development and sustainability.
- Emphasizing smaller, less complex projects with more flexible and innovative designs.
- Shortening project cycles so that mistakes can be avoided as new projects are developed.

The Bank should reassess its reliance on supervisory missions for project monitoring and consider greater use of resident specialists for constant guidance. The Bank should also consider developing a systems approach to project evaluation and schedule more regular project reviews. The Bank needs, in addition, to increase its coordination with other international donor agencies and with private voluntary organizations.

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95. International Trade and Imperfect Competition Theory and Application to the Automobile Trade

Junichi Goto

The real world economy is much less competitive than an economics textbook assumes, especially for automobiles.

This paper develops a formal general equilibrium trade model for imperfect competition, a model easily applied to actual situations. Starting from the Krugman-Dixit-Stiglitz framework, the model incorporates labor market imperfection and variable elasticity of substitution between differentiated products.

The real world economy is much less competitive than an economics textbook assumes, especially for automobiles.

The model shows that, in the long run, international trade brings about five gains:

- *Greater variety in consumption.* Consumers can enjoy a wider selection of goods through the introduction of foreign goods.
- *Efficiency in product markets.* Monopolistic power of domestic producers is weakened by foreign competition.
- *Technical efficiency.* The unit cost of production is reduced by foreign competition and by further use of increasing returns to scale technology.
- *Decline in structural unemployment.* Contrary to popular belief, foreign competition reduces unemployment in the long run by rectifying labor market imperfections.
- *Contribution to economic growth.* International division of labor encourages savings in fixed costs, and the saved capital resources can facilitate economic growth.

The model is also applied to the U.S. automobile trade in 1986 to estimate the magnitude of the five effects. The results suggest that the cost of trade restrictions is high because the restrictions further increase the imperfect competition in the American auto industry.

The model is general enough for the analysis of many industries in both developed and developing countries.

This paper is a product of the International Trade Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jean Epps, room S8-037, extension 33710.

96. The Private Sector and Family Planning in Developing Countries

Maureen A. Lewis and Genevieve Kenney

In harnessing the private sector to provide more family planning services to both middle and low income people, governments can use incentives to stimulate private sector investment and can ensure quality control through regulation.

In harnessing the private sector to provide more family planning services to both middle and low income people, governments can use incentives to stimulate private sector investment and can ensure quality control through regulation.

The private sector might meet more of the demand for contraception, thereby reducing government's subsidies for contraception.

The private sector is already involved in many facets of family planning — from research and development to production and to distribution and delivery. It is the major source of contraceptive resupply methods (oral contraceptives and condoms) in most countries. And it is an important source of more permanent methods (sterilization and IUDs) in a few countries.

Some public efforts have been exerted to harness and collaborate with the private sector. These include incorporating family planning with employee health benefit packages (the most common experience), social marketing projects (where a subsidized contraceptive is distributed through commercial channels), and stimulants to private sector investment in family planning.

Few of the experiments have been evaluated, but some arrangements appear to be appropriate and effective in raising contraceptive prevalence. Moreover, steps could be taken to improve and expand the methods that donors and national governments adopt to promote greater private sector investment in family planning service delivery.

Clearly needed is an evaluation of existing programs and projects. More needs to be known about what determines consumer reliance on private as opposed to public sector sources of services, the cost and cost-effectiveness of different interventions, and the limits of the private sector in meeting contraceptive demand.

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97. Subsidies

Richard H. Snape

Allegedly subsidized exports from developing countries are targets for countervailing import tariffs. But what are export subsidies? Should they be of concern?

Only when the United States started experiencing tough competition in world markets did the questions of fair trade and export subsidies move to center stage in the international trade discussions. But is "fair trade" a will-o'-the-wisp?

The 1970s Tokyo Round of multilateral trade negotiations produced a Subsidies Code. But neither subsidies nor countervailing actions have been constrained to the extent that negotiators of the code hoped. The code has evoked discord, partly because "export-promoting subsidy" is so difficult to define.

The United States has been the chief implementer of countervailing duties (CVDs) — many of them viewed as a form of harassement by foreign exporters, particularly of manufactured products. Few CVDs have been targeted at the United States where — as in Europe — the most subsidized exports are agricultural exports that injure industries not in the importing countries but in other agricultural exporting countries.

Alternative approaches to that of the Subsidies Code are:

- Ignore domestic subsidies in exporting countries and focus only on export subsidies.
- Ignore the distinction between fair and unfair foreign competition and place all industry safeguard actions on one track.
- Attack import barriers, not subsidies, for without barriers to imports the extent of assistance tends to be limited by transparency and by fiscal considerations.

This paper is a product of the office of the Research Administrator. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jane Sweeney, room S13-131, extension 31021.

98. Diversification in Rural Asia

Agriculture and Rural Development Staff

The challenge to agriculture in East Asia is to sustain rice farming while expanding into a more flexible, diverse agriculture. The task for aid agencies will be to come up with suitable analytical skills and technical knowledge for the switch from commodity-based project lending to broader *sectoral support.*

As a result of the declining contribution of rice-based farming in East Asia, investment in agriculture must diversify to maintain rural incomes.

In the short term, East Asian countries should (1) diversify toward crops for which there is a promising market (fruits, vegetables, and livestock products rather than sugar, rubber, coconuts, and palm oil) and (2) expand small-scale industry, marketing, and construction in rural areas.

Long-term needs include sustained research on crop and livestock technology with an eye to developing:

- Higher yielding secondary food crops.
- Better integration of livestock and crop production.
- More flexible irrigation and drainage systems (current rice irrigation systems being suited only to rice).
- Improved technology to lower the cost of production.

The policy dialogue should focus on key questions. How do different crops and livestock interact to affect overall output? What are the costs of various combinations? How can the need for farm and regional specialization and cooperation between small farmers be balanced with the broader need for flexibility?

Rather than focus on narrow issues — such as the costs of protecting rice farmers — or take a "pick-the-winner" approach to diversification, the Bank should help:

- Create an overall policy environment that encourages more flexible and broader cropping systems rather than commodity-support programs.
- Design laws and institutions that facilitate efficient marketing by establishing grades and standards for different commodities and developing and distributing farm inputs.
- Stimulate public investment in physical and social infrastructure, communications, and information systems.
- Develop a rural financial system that mobilizes rural savings, makes credit available to traders, and diversifies the rural economy.
- Assess rural training and education systems and their capacity to prepare rural people for nonagricultural jobs.

This paper is a product of the Agriculture Production and Services Division, Agriculture and Rural Development Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Shawki Barghouti, room J2-071, extension 38408.

99. Trade Policies and the Debt Crisis

Sam Laird and Julio Nogues

The highly indebted countries have been removing their trade barriers but creditor nations are increasing them. This makes it harder for the indebted countries to export more and to service their debts.

In the early 1980s, faced with a mounting debt crisis, most highly indebted developing countries increased trade barriers to generate more foreign exchange — but in the last three to four years, they have reversed course.

Almost all highly indebted countries have undergone real devaluations and many have undertaken significant liberalizations, so much so that some countries (Bolivia, Jamaica, Uruguay, Mexico, Morocco, Costa Rica) are less protectionist than before the debt crisis.

But industrial countries have imposed new nontariff barriers against imports from highly indebted countries. Canada, Australia, the EEC, and the United States have greatly increased the use of countervailing duties and antidumping actions.

Industrial countries' export subsidies have contributed to lower prices for beef, sugar, and grains — which are important exports for several highly indebted countries. Industrial countries have also recently imposed stricter import quotas and pressured highly indebted countries to accept additional "voluntary" export restraints.

In general, highly indebted countries remain more protectionist than industrial nations. But growing protectionism in the industrial nations makes it more difficult for highly indebted countries to pay off their debts, and ultimately rebounds on creditor governments and banks.

This paper is a product of the International Trade Division, International Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Salome Torrijos, room S8-033, extension 33709.

100. Public Infrastructure and Private Sector Profitability and Productivity in Mexico

Anwar Shah

Microeconomic analysis of Mexican industry shows additional investment in public infrastructure produces only a small increase in output. This suggests that the policy emphasis in Mexico should be on the better upkeep of existing infrastructure to ensure the continuity of public services rather than on new capital investment.

This paper specifies a microeconometric model (a restricted equilibrium framework) to estimate the impact of investment in public infrastructure on private industrial profitability. Empirical results based on time series data for 34 industries characterize the Mexican industrial structure as having involuntary unemployment, deficient product demand, declining productivity growth, increasing returns to scale, and short-run excess capital capacity. Aggregate technological change over the period studied has been capital using and labor saving.

Both labor and capital are underused in the short run. This disequilibrium has high efficiency costs that may be undermining Mexico's international competitiveness.

The long-run multiplier effect of public infrastructure on output as measured by the output elasticity of public infrastructure is positive but small. Since public infrastructure is also observed to have a small degree of complementarity with both capital and labor, better upkeep of the existing infrastructure would help improve the functioning of labor and product markets in Mexico.

From the private sector's perspective, however, the long-run productivity of private capital is much higher than the productivity of public capital. Therefore, new capital investment in the public sector is not recommended at this time and should be undertaken only to rectify any identified constraints imposed by the inadequacy of infrastructure in the private employment of private factors.

This paper is a product of the Public Economics Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-061, extension

60359.

101. Measuring the Impact of Minimum Wage Policies on the Economy

Luis A. Riveros and Ricardo Paredes

Traditional statistical techniques probably underestimate the negative effects of protective wage regulations on young and unskilled workers — who should be getting training, not minimum wages.

Our knowledge about the harmful effects of minimum wage regulations has been strongly influenced by statistical evidence from the industrial countries — which is often based on indirect estimates that do not take into account the many "discouraged job seekers" who withdraw from the labor force (and statistical samples) because of minimum wage regulations. Minimum wage regulations are probably more harmful than economists have assumed them to be.

Government regulation of the minimum wage is most likely to limit the job prospects of young and uneducated or unskilled workers. Proportionately fewer women than men are affected by the minimum wage because women withdraw from the labor force and remain unemployed — or work in the informal sector and productive activities not accounted for in labor statistics.

Minimum wage regulations should probably not apply to young or unskilled workers or apprentices. It is less important to guarantee unskilled workers a minimum wage and more important to provide them with training that will increase their chances of rising above the need for wage protection.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 61762.

102. Effects of the Multifibre Arrangement on Developing Countries — A Survey

Junichi Goto

The Multifibre Agreement (MFA), the most important restriction on textile and clothing exports, has damaging effects on many less developed countries, both in the short and long run.

The MFA consists of bilateral quotas against textile and clothing exports from developing countries. It thus derogates two GATT principles: nondiscrimination and the avoidance of quantitative restrictions. Despite this derogation, the MFA is administered under the auspices of GATT.

The primary purpose of the MFA is to restrict LDC shipments of textiles and clothing. Although the MFA quotas cost the consumer in importing countries a great deal, they save (or create) few jobs. The quotas are therefore a poor way to protect workers from foreign competition.

The MFA has a strong impact on LDCs in the short run for the following reasons:

- The forgone export revenue of LDCs, partly offset by the transfer of quota rents, is huge.
- Since individual quotas under the MFA are imposed on selected (often efficient) exporting countries, unrestricted (inefficient) countries may be able to increase their shipments at the expense of restricted countries. The MFA affects the pattern of trade.
- Since the MFA puts a cap on the quantity (not the value) of shipments, it encourages the upgrading of goods.

The MFA also has an impact on the economic development in the long run. On the positive side, attempts to evade MFA quotas stimulate foreign investment from restricted suppliers, like Hong Kong, to nonrestricted countries. Investments to less restricted regions have helped economic development of countries in Asia (and perhaps to less extent in Latin America and the Caribbean).

But the MFA discourages countries from becoming "too successful." For example, when Bangladesh showed success in clothing exports with the help of a Korean company, the developed countries negotiated bilateral restrictions with the poorer country. Thus the MFA tends to maintain the present configuration of textile and clothing trade — and therefore discourages dynamic shifts in trade based on comparative advantage.

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103. Industrial Portfolio Responses to Macroeconomic Shocks — An Econometric Model for Developing Countries

James R. Tybout and Taeho Bark

Rapid changes in the exchange rate significantly affect leverage and liquidity in the corporate sector.

Under what macroeconomic conditions are industrial growth and financial stability — or disaster — most likely in a semi-industrial country?

The question is addressed using an econometric model with the following features. Each firm's net income is a function of macroeconomic variables (such as output demand and interest rates) and firm-specific factors (such as physical asset shocks, currency exposure, and overall indebtedness). Each firm retains some portion of its income — how much depends on dividend policy and past earnings performance. Retained earnings add to net worth and are distributed among specific assets and liabilities according to the same macroeconomic and firm-specific variables. These incremental additions to assets and liabilities set the stage for the next period's adjustment behavior.

Application of this model to Uruguayan raw data yielded these basic findings:

- Corporate income is very sensitive to output demand and the cost of dollar credit.
- Fluctuations in corporate income have a clear, direct effect on the rate at which net worth expands.
- Firms absorb most short-run fluctuations in net worth by adjusting assets, not debts.
- Corporate demand for peso credit is very unresponsive to the real peso interest rate.

The findings imply that rapid changes in the exchange rate or aggregate demand significantly affect leverage and liquidity in the corporate sector.

This paper is a product of the Trade Policy Division, Country Economics Division. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Carla Cabana, room N8-065, extension 61539.

104. Economic Effects of Financial Crises

Manuel Hinds

The financial systems in financially distressed countries should be restructured so that banks can acknowledge and allocate losses rather than protect inefficient companies — thereby throwing good money after bad.

Confronted with a financial crisis, governments in many developing countries protect their banks from bankruptcy by allocating resources to the least efficient debtors—loss-making firms whose bankruptcy would lead to the failure of the banking system. This crowds out efficient activities that could lead to economic recovery.

Such misallocations of resources, and the destabilizing macroeconomic forces they generate, will delay economic recovery until losses are allocated in a way that mimics bankruptcy processes.

The financial system should be restructured to curtail (through writeoffs and recapitalization) the dependence of banks on their bad borrowers. Banks and their depositors (or an important subset of them) should be protected to avoid the monetary effects of a banking panic. But bank shareholders and managers should take their share of the losses — the shareholders by losing their investment (through writeoffs) and the managers by being removed from their positions.

Restructurings of banks should be used to bring about restructuring in the real sector: the failure of unviable firms (by foreclosing on the collateral and selling off assets) or the forced restructuring of troubled but viable firms.

This paper is a product of the Trade and Finance Division, Europe, Middle East, and North Africa Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Luz Hovsepian, room H9-065, extension 32979.

105. Securing Access to International Markets

Richard H. Snape

Much of the action in international trade negotiations is bilateral or otherwise discriminatory, including action under GATT auspices. Does this threaten multilateralism and market access for small trading companies?

The unconditional extension of the fruits of trade negotiations under the General Agreement on Tariffs and Trade is giving way to bilateral and other discriminatory trade agreements. Led by the United States, GATT has taken a strong position against discrimination: the benefits of negotiations under GATT generally have been extended to all contracting parties without specific conditions or reservations. This unconditional extension of benefits — the unconditional most-favored-nation principle (MFN) — is now under considerable pressure.

Supporters of conditional MFN point out that it ensures reciprocity and, by discouraging foot-dragging and free-riding, encourages negotiation. On the other hand, advocates of unconditional MFN argue that it ensures that the benefits of negotiations are not wasted, that it simplifies administration of trade barriers, reduces friction between nations, protects the small and weak, and facilitates the development and preservation of a multilateral trading system.

Although the United States has pursued nondiscriminatory trade pacts since 1923, Washington has in a recent turnaround pursued preferential trading arrangements, promoted forms of conditional MFN, and sought discriminatory treatment for some of its exports and imports. No nondiscriminatory leadership has emerged to replace that of the United States.

The threat to multilateralism and small traders will be reduced if:

- New trade-liberalizing "clubs" that are formed in the Uruguay Round, or elsewhere, are open to new members on the same terms that apply to the founders.
- Compliance with the rules of such clubs is determined multilaterally and not unilaterally by any existing members.
- Markets that are levered open are opened in a nondiscriminatory manner.
- Preferential trading arrangements conform to the relevant GATT rule — Article XXIV.
- The main safeguard provision of GATT (Article XIX) remains nondiscriminatory.

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